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The manuscripts of articles should be submitted in *triplicate*, clearly typed on one side only, double space with wide margins, **preferably on floppy or through e-mail** (dravling@md5.vsnl.net.in). Language data should be underlined with meanings in inverted commas. The systems of footnotes and listing of bibliography will be those adopted in *Language*. The article, if theoretically important, will be treated as in *Current Anthropology* and published with comments and replies. Fifty offprints will be issued free of cost to the author(s). Classical papers which are out-of-print will also be republished if there is a demand.

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Introduction

The Term Defined

Alternately, the term may also be understood as 'people' and Prakrit being the natural language of the people - *prakṛtheḥ prakṛtam* - uncontrolled by the rules of grammar as opposed to Sanskrit, the refined language

* This is the written version of an Endowment lecture delivered orally at the 32nd A.I.C.D.L. held in July in Warangal, Andhra Pradesh. I am indebted to all the discussants who raised questions on various matters, which helped me clarify them here. I would also like to record my deep gratitude to Prof. Deshpande from whose monograph the extracts of Section 6 are drawn.

of the learned. It is to Namisa:dhu, the famous commentator of Rudrata's *Ka:vyā:lanka:ra*, that we owe this surprisingly modern definition of the word *pra:kṛta*. In this connection, it is worth noticing the peculiar use of this word made by Ka:lida:sa in his oft-quoted passage - *ra:ja: prakṛtirañjana:t* - where it indicates the subjects of a king, i.e. the common people of his kingdom in their totality. In this understanding, Sanskrit and Prakrit would become contemporaneous.

A language is never found uniformly as one dialect and this must have been true also of the early stage of Indo-Aryan. The Indo-Aryan speakers who arrived in India comprised of various tribes and they must have spoken different dialects of which one of them later became the literary standard (= *Samskṛta*) while others remained only as spoken dialects. These non-literary, colloquial varieties are Prakrits - speech of the masses. Thus it may be said that Sanskrit and the Prakrits have been there together all the time.

The Rigvedic dialect represented the North-western variety and lacked the lateral sound // in its sound system. It was an /r/ dialect. The ancestor of Ma:gadhi: Prakrit which was prevalent in the East shows only // in its phonology. The Classical Sanskrit which grew up in *Madhyadeśa* shows both /r/ and // and was probably influenced by both the North-western as well as the Eastern dialects.

Dialects included under Prakrits

The following dialects are included under the term 'Prakrits': Ardhamā:gadhi:, Jaina Ma:ha:ra:ṣṭri:, Jaina Śauraseni:, Ma:ha:ra:ṣṭri:, Śauraseni:, Ma:gadhi: and Paiśa:ci:. Besides, two varieties are known as extra-Indian Prakrits as they were found outside the country. They are: (i) the language of Dhammapada, fragments of which were discovered in Khotan in 1892 and written in *Kharoṣṭhi*:. It is referred to as Ms. Dutreuil de Rhins, as it was discovered by a French traveller; (ii) Niya (or Khotanese) Prakrit, the language of the documents found in central Asia, discovered by an Englishman, Sir Aurel Stein. Because of so many dialects, the term 'Prakrits' is commonly used in the plural to refer to them.

Ardhamā:gadhi: is the language of the oldest Jaina su:tra-s, the canons of Sveta:mbara Jains. The word *Ardhamā:gadhi: bha:ṣa:* or *Ardhamā:gaha: bha:ṣa:* occurs in the canon itself as the language in which Ma:ha:vi:ra carried on his religious discourses. In Sanskrit, however, the

name *A:ṛsa* is given to this language and it is so described in grammatical literature written in Sanskrit. The language attested in the verses is more archaic than that in the prose section. The most archaic type is seen in the *A:ya:raṅga* and next in order came *Su:yagadaṅga* and the *Uttarajjhayaṇa*. The language is so called either because it is closely related to Ma:gadhi: or it was originally prevalent in half the country of Magadha.

Jaina Ma:ha:ra:ṣṭri: is primarily the language of the non-canonical works of the Śveta:mbara-s, consisting mainly of collection of stories. The most important text in this language is naturally the *A:vaśyaka* narratives, so rich in story motifs. This language is found in a pure form in the *Paūmacariya* of Vimalasu:ri (ca. 2nd - 3rd cent. A.D.). An older form of this language is seen in certain *Cu:rṇi*-s, *Katha:naka*-s and the *Vasudevahindī* of Sanghada:sa. An inscription dated A.D. 861 found near *Ghataya:la*, a village situated twenty miles to the north of Jodhpur, recording the foundation of a Jaina temple by a chief entitled Kakkuka, is also composed in this dialect.

Jaina Śauraseni: is the name given to the principal language in which the Digambara Jaina canon is composed. It shows the chief characteristics of Śauraseni:, i.e. intervocalic unvoiced dentals of Sanskrit becoming voiced dentals, and is influenced greatly by Ardhamā:gadhi:. The *Pavayaṇasa:ra* of Kundakunda (ca. A.D. 100) is one of the earliest and best-known works composed in this dialect.

Ma:ha:ra:ṣṭri: has been considered the Prakrit par excellence by Dandin in his *Ka:vyā:darśa* (*Ma:ha:ra:ṣṭra:śraya:m bha:ṣa:m prakṛṣṭam pra:kṛtam viduḥ* - 1.34) and it has been the usual practice of the grammarians to treat this language first in their grammars, describing in detail all its chief characteristics while the rest of the dialects are merely given a scanty mention with only a few rules devoted to them in comparison. The famous *Sattasai:* of Ha:la and the *Vajja:lagga* of Jayavallabha, anthologies of lyrics that must have been composed by a large number of poets, are in Ma:ha:ra:ṣṭri:. These lyrical songs, containing liquid sounds so characteristic of Ma:ha:ra:ṣṭri:, must have been composed for musical singing. It is also one of the chief mediums for composition of artificial epic poetry, chief among which are the *Ra:vaṇavaho* of Pravarasena (also known as Dahamuhavaho) and the *Gaudavaho* of Bappaira:a.

Among the literary Prakrits, Ma:ha:ra:ṣṭri: is unique, for the other languages like Śauraseni: and Ma:gadhi: in which we do expect to find some

literature but unfortunately do not (except in Sanskrit plays), have left no trace at all. Śauraseni: is known originally to have been the language of the Midland while Ma:ha:ra:ṣṭri: was of Ma:ha:ra:ṣṭra and Ma:gaḍhi: of the East.

Paiśa:ci: is the language in which Guna:dhya's famous *Brhatkatha:* is said to have been composed. Unfortunately, this great work has disappeared, leaving its traces only in the rich *katha:* literature in Sanskrit preserved in Somadeva's *Katha:saritsa:gara* and Ksemendra's *Brhat-katha:mañjari:*. Our knowledge of this language must therefore depend entirely upon the rules of grammarians that have come down traditionally.

In dramatic literature, we may note that Ma:ha:ra:ṣṭri:, Śauraseni: and Ma:gaḍhi: are employed side by side with Sanskrit. Generally, Ma:ha:ra:ṣṭri: is employed in verse while the other Prakrits are found in prose sections. This situation is suggestive of the fact that the audience before whom these dramas were enacted, was able to understand equally both the languages and enjoy the performance. There are also dramas presented completely in Prakrit alone and of them *Karpu:ramañjari:* of Ra:jaśekhara (ca. the beginning of the 10th cent. A.D.) may be counted the best. Following this, Nayacandra (15 cent. A.D.) wrote a Sattaka titled *Rambha:mañjari:* and later Rudrada:sa of Malabar produced another beautiful Sattaka named *Candralekha:*. In the middle of the 18th century, two more Sattaka-s were produced - one by the name *A:nandasundari:* by Ghanasya:ma of Tanjavur and another, *Śṛīga:ramañjari:* by Viśveśwara of Uttar Pradesh.

Grammatical Literature

Two schools are recognized, one the Eastern and the other, Western. The Eastern school is headed by Vararuci and includes such names as Puruśottama, Kramadi:śvara, Rāmaśarman and Ma:rkandeya. The Western school includes such names as Hemacandra, Simhara:ja, Trivikrama and Lakṣmi:dhara. The earliest available grammar of Prakrits is that of Vararuci entitled *Pra:kṛtapraka:śa* with commentary of Bha:maha under the name of *Manorma:*. Vararuci mentions Ma:ha:ra:ṣṭri:, Paiśa:ci, Ma:gaḍhi: and Śauraseni:. Fairly old, as far as Prakrit grammars are concerned, is Caṇḍa's *Pra:kṛtalakṣaṇa* in which are dealt Ma:ha:ra:ṣṭri: and the Jaina Prakrits. The best known and the most complete Prakrit grammar is however that by the famous polymath Hemacandra of Gujarat (A.D. 1088 - 1172), comprised within the 8th chapter of his *Siddhahemacandra*, accompanied by his own commentary. He deals with Ma:ha:ra:ṣṭri:, Śauraseni:, Ma:gaḍhi:, and Sanskrit.

Paiśa:ci:, *Cu:lika:paiśa:ci:* and *Apabhramśa*. Hemacandra's own commentary to his grammar has come down to us in two recensions - *Brhati:* and *Laghu vṛttis* - the latter of which is entitled *Prakaśika:*. Like Hemacandra, Kramadīśvara composed a Sanskrit grammar entitled *Śamkṣiptasa:ra*, the 8th chapter of which is devoted to Prakrit. In a large measure, he follows Vararuci.

In the Eastern school, the *Pra:kṛta:nuśa:sana* of Puruṣottama is known from a single manuscript preserved in the Nepalese library at Kathmandu, written in Nevari characters bearing the date A.D. 1265. The *Pra:kṛtakalpataru* of Ramaśarman is known from a manuscript which records its date as śaka 1608 (A.D. 1686). The *Pra:kṛtasarvasva* of Ma:rkandeya is better known than the previous two grammars. All these three grammars divide the Prakrits into *bha:ṣa:*, *vibha:ṣa:*, *apabhramśa* and *Paiśa:ci:ka:*. After Ma:ha:ra:ṣṭri:, these grammarians study Śauraseni:, Pra:cya:, A:vanti:, and Ma:gadhi: under the first division *bha:ṣa:*. Then the remaining three are studied. In the Western school, *Pra:kṛtaru:pa:vata:ra* of Simhara:ja and *Ṣaḍbha:ṣa:candrika:* of Lakṣmi:dhara are better known. Similarly, Appayyadi:kṣita's *Pra:kṛtamanidi:pa* belongs to this school.

For a study of Prakrit vocabulary, particularly the so-called *Deśi:* words, there are two old lexicons - Dhanapa:la's *Pa:ialacchi:* and Hemacandra's *Deśi:na:mama:la:* which give us a fairly large sample of such words arranged in a scientific manner. They are invaluable for a study of the history of Prakrit words, for many of them are not met with in the existing Prakrit literature. Dhanapa:la's date is, according to himself, the latter half of the 10th century and his work was composed in A.D. 972.

General Characteristics: Phonology

- a) Loss of Sanskrit vocalic /r/. It merges with /a, i, u/ depending on the dialect (/a/ in the west, /i/ in the North-west) and its environment. E.g. *kṛta* 'done' > *kā*; *ṛṣi* 'sage' > *isi*; *ṛju* 'straight' > *uju*; *mṛta* 'dead' > *mua*. /r/ is preserved only in the Niya Prakrit. /l/ which was available in Sanskrit in only one root /kṛp/ is also lost in Prakrit.
- b) Sanskrit diphthongs /ai/ and /au/ were monophthongised: *ai* > *e*; *au* > *o*; E.g. *kaivarta* 'hunter' > *kevaṭṭa*; *auśadha* 'medicine' > *osaḥa*.
- c) The three sibilants /ś, ṣ, s/ merged into one dental /s/ in most dialects or /ś/ in Ma:gadhi:. However, in Niya and other North-western Prakrits, all the three are preserved. E.g. *śeṣa* 'remainder' > *sesa*.

d) Sanskrit consonant clusters are eliminated either by assimilation, *svarabhakti* process or by metathesis.

Assimilation

- (i) Homorganic clusters underwent regressive assimilation (i.e. they were reduced to the geminate form of the second members); e.g. *bhuktam* 'eaten' > *bhuttam*; *khadgaḥ* 'sword' > *khaggo*.
- (ii) Heterorganic groups were reduced to the geminate form of the 'stronger' consonant from the point of view of its occlusion. In other words, the clusters of stop and liquid, nasal or glide underwent progressive assimilation; e.g. *nagnaḥ* 'naked' > *naggo*; *kudyaṃ* 'wall' > *kuddam*; *valkalam* 'garment made of bark' > *vakkalam*; *cakraḥ* 'wheel' > *cakko*.
- (iii) Weakening of the sibilant /s/ in clusters into glottal fricative /h/; e.g. *bhikṣu* 'monk' > *bhikkhu*; *śuśka* 'dry' > *sukkha*.
- (iv) Sanskrit clusters of dental stops and palatal /y/ underwent palatalization; e.g. *satya* 'truth' > *sacca*; *vidya* 'knowledge' > *vijja*.

Svarabhakti

Consonant clusters are separated by inserting a vowel between them; e.g. *yajña* 'worship' > *yajana*; *prthvi* 'earth' > *prithivi*.

Metathesis

A small class of words in which /r/ was the second member of initial consonant clusters underwent metathesis resulting in consonant clusters in medial positions; these clusters then resulted in geminates of the second consonant according to assimilation rules; e.g. *preman* 'love' > **perman* > *pemman*; *kriḍa* 'play' > **kiṛda* > *kiḍḍa*; *triṇi* 'three' > **tiṛni* > *tinṇi*. Metathesis, which is assumed here to have taken place in these forms, is not attested. It is posited in order to explain the Prakrit forms satisfactorily since others dump them as sporadic changes so far.

- (v) Prakrit dialects lost the contrast of length in closed syllables (i.e. only a short vowel occurs in these positions); e.g. *raḥjyam* 'kingdom' > *rajjam*; *adya* 'today' > *ajja*.

- (vi) All final consonants are lost; e.g. *vidyut* 'lightning' > *vijju*.
- (vii) Intervocalic aspirates are reduced to /h/; e.g. *dadhi* 'curds' > *dahi*; *megha* 'cloud' > *meha*; *katha* 'story' > *kaha*; *sabha* 'assembly' > *saha*; *mukham* 'face' > *muham*.
- (viii) Visarga is completely lost.

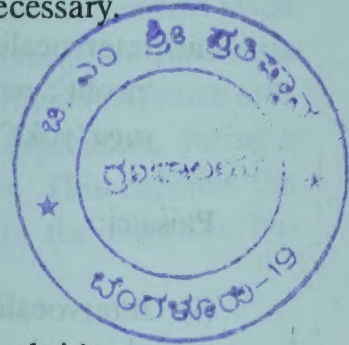
Morphology

- (i) The distinction in the nominal stems between vocalic ending and consonantal ending is eliminated. They all become vowel ending.
- (ii) The majority of stems are reduced to (a) masculine and neuter in *-a*, *-i*, *-u*, and (b) feminine in *-a*, *-i*, *-i*, *-u* and *-u*.
- (iii) Dual number is lost; only singular and plural have survived.
- (iv) Dative merges with the genitive (i.e. the function of the dative is taken over by the genitive).
- (v) The athematic conjugation lost its ablaut and was thematised; thus, the Sanskrit two-way distinction of thematic versus athematic is eliminated.
- (vi) Middle and passive voice are progressively represented by the terminations of the active voice.
- (vii) In addition to the present system, the aorist form in *-ittha* covers all persons and numbers. The optative reduces itself to the termination *-jja* to which the present terminations may be added, if necessary.
- (viii) The future is marked by either *-ssa* or *-hi*.

Special Features of Dialects

Ma:ha:ra:ṣṭri:

- (i) All intervocalic stops become zero; e.g. *pra:kṛta* 'prakrit' > *pa:ua*; *sakala* 'all' > *sāla*; *locana* 'eye' > *loaṇa*; *kapi* 'monkey' > *kai*.
- (ii) Final *-ah* of Sanskrit becomes *-o*; e.g. *putrah* 'son' > *putto*.



- (iii) Ablative singular is marked by *-ahi* and the locative singular is marked by *-mmi*.
- (iv) The passive is marked by *-ijja*.
- (v) The absolutive is characterized by *-u:ṇa*; e.g. *pucchiu:ṇa*.

Śauraseni:

- (i) Intervocalic dental stops are not lost; e.g. *gata* 'gone' > *gada*.
- (ii) Final *-ah* becomes *-o* as in *Ma:ha:ra:ṣṭri:*.
- (iii) The absolutive is characterized by *-ia*; e.g. *pucchia* 'having asked'.
- (iv) Future is marked by the suffix *-issa*.

Ma:gadhi:

- (i) The two liquids */l/* and */r/* merge into */l/*; e.g. *ra:ja:* 'king' > *la:ja:*.
- (ii) Final *-ah* becomes *-e*; e.g. *putrah* 'son' > *putte*.
- (iii) */y/* replaces */j/*; e.g. *janapada* 'kingdom' > *yaṇavada*.

Ardhama:gadhi:

- (i) Intervocalic */g/* generally remains; e.g. *nagara* 'town' > *nagara*.
- (ii) Initial and medial */n/* becomes optionally */ṇ/*.
- (iii) Intervocalic */bh/* and */y/* generally remain unchanged; e.g. *la:bho* 'profit'; *payoga* 'experiment'; however, initial */y/* changes into */j/*; e.g. *yuga* 'yoke' > *juga*.

Paiśa:ci:

- (i) Intervocalic voiceless consonants are generally not lost; voiced ones are changed into voiceless; e.g. *nagara* 'town' > *nakara*; *ra:ja:* 'king' > *ra:ca:*.
- (ii) Future tense is marked by *-eyya*; e.g. *huveyya* 'will be'.

(iii) Passive is marked by the suffix *-iyya*.

(iv) Absolutive is marked by the suffix *-tu:ne*; e.g. *paṭhitu:ne*.

Relation between Sanskrit and Prakrit

Professor Madhav Deshpande of the University of Michigan, Ann Arbor, has carried out extensive research and has exhaustively discussed the relation between Sanskrit and the Prakrits in his monograph *Sociolinguistic Attitudes in India*. The following paragraphs are taken from his book.

The rise of Buddhism and Jainism, and the insistence of these two faiths on using the local Indo-Aryan languages in preference to Sanskrit may be related to the socio-political changes of the time. During the reign of Aśoka, Buddhism officially received royal patronage and spread all over India. All the inscriptions of Aśoka are in non-Sanskrit dialects. There seems to have been no encouragement for Sanskrit studies during this period. The Prakrit languages start moving gradually up on the scale of social prestige and the upper classes are being 'lowered' or 'prakritized' both in their inclusion of other ethnic elements, and as a result, in language. There are subjective statements like "prakrit poetry is sweet like nectar" and "compositions in Sanskrit sound harsh".

By the time of Kaṭṭya:yana (about 300 B.C.) and Patañjali (about 100 B.C.), even Brahmins have begun using Prakrits as their first language while Sanskrit is retained in the ritual and scholastic contexts. Even as late as in the 11th century, Bilhana mentions in his *Vikramaṅkadevacarita* that in Kashmir, even women in every home spoke Sanskrit and the Prakrits like their own mother tongue. Conditions may have been probably the same more or less in other parts of India, particularly among the cultured classes. Kaṭṭya:yana concedes that one can indeed communicate in a Prakrit language as well as in Sanskrit, but he insists that only the use of Sanskrit leads to religious merit (*dharma*) while the 'subnormal' language of Buddhists and Jains lead to *adharma*. Patañjali quotes an ancient ritual text which says that if a sacrificer uses an *apaśabda*, a non-Sanskritic expression, during a sacrifice, he must perform penance to expiate the sin. This explains the relationship of Sanskrit and non-Sanskrit languages in the linguistic behaviour of the upper classes during this period.

Patañjali quotes an example of 'linguistic incapacity'. He says that a Brahmin woman could not speak the Sanskrit word *ṛtaka* in the proper way, mispronouncing it as *ltaka*. The most probable cause of this phenomenon is

that Brahmins in the post-Vedic period were marrying women from the lower ranks of society. Thus, by this time, even the Brahmin women were no longer Sanskrit speakers but spoke Prakrit. The expression *ltaka* for the Sanskrit *rtaka* is indicative of the Eastern Prakrit, like Ma:gadhi: where every /r/ changed to /l/. In another passage, Patañjali mentions the sages Yarva:ṇa and Tarva:ṇa. These two sages used the proper Sanskrit sequences *yad va: naḥ* and *tad va: naḥ* only during the Vedic rituals (*yajñe karmanī*) but on other occasions they used the Prakrit forms *yarva:ṇa* and *tarva:ṇa*. Thus, even great sages were Prakrit speakers during this period and they used Sanskrit only in the 'traditional' contexts.

The Ramayana records the story of a demon who when disguised as a Brahmin, could speak chaste Sanskrit. Otherwise, he may have spoken a non-standard form of Sanskrit or a non-Aryan speech. Similarly, Hanuman knew Sanskrit speech as the Brahmins spoke it but spoke probably either a different language or a different variety of Sanskrit with other members of the clan.

The hieratic attitude of Patañjali is quite evident from the discussion in the *Maha:bha:sya*. He says that corresponding to a *śabda* 'normal Sanskrit word', there are many *apaśabda*-s 'substandard' (*apaśabda*, *apabhramśa*) words: *ga:vi:*, *goni:*, *gota:*, *gopotalika:*, etc. From Patañjali's hieratic perspective, all these non-Sanskrit Indo-Aryan usages were below the threshold of Sanskrit proper and were substandard. There is an implicit indication that from the point of view of the orthodox Brahmins, the Buddhists and Jains whose scriptures were written in these 'substandard' languages were also substandard with respect to the higher Brahminical religion. The *Pura:ṇa*-s indeed claim that Buddha and Mahavira were born to teach wrong doctrines to the *Asura*-s so that they may be effectively doomed.

The Jains, however, did not regard the Ardhamā:gadhi: language as a 'substandard' language. On the contrary, the Jaina texts make it quite clear that Ardhamā:gadhi: is the Aryan (*ariya*) language and that those people who speak Ardhamā:gadhi: are the linguistically Aryan people (*bha:sa:riya*). Further, we may well suppose that the Mauryas who supported Buddhism and Jainism, and had all of their inscriptions inscribed in the local Prakrit dialects did not view these languages as 'substandard' languages. However, in later times, even Buddhists and Jains took recourse again to Sanskrit for their literary activities since it was thought that Sanskrit could be the only medium for any serene and scientific writing.

The works on poetics give us a clearer picture on the relation between these languages. Ra:jaśekhara's *Ka:vyami:ma:m̐sa:* (about A.D. 900), a text on Sanskrit poetics, is a veritable mine of information on linguistic attitudes and linguistic geography. The following statements of the author on regional linguistic peculiarities are quite revealing.

Ma:gadha-s and others to the east of Banaras speak Sanskrit quite well but they do not do well in Prakrit. A *Gauḍa* speaks Prakrit so badly that either he should give up Prakrit or Prakrit should change its nature. A *Gauḍa* reciter is neither clear nor confused, neither harsh nor soft, and has neither a low pitch nor a high one. His recitation is like that of a mare. Whatever be the sentiment, style or qualities, all the *Karna:ṭa*-s proudly recite their retroflexes. The *La:ṭa*-s hate Sanskrit but recite beautifully Prakrit with their tongue rambling with the pleasure of uttering sounds. The poets of *Sura:ṣṭra* even recite Sanskrit by mixing it with bits of Apabhraṃśa, thus making it more beautiful. The poets of the northern region recite with a nasal twang despite their great refinement. Possessed of good qualities with perfect arrangement of words and properly divided by caesuras, the beautiful recitation of the poets of the *Pa:ñca:la* region flows into the ears like honey. (It may be noted that the author himself belonged to this region.)

In the same way, the Prakrit narrative *Kuvalayama:la:* of Uddyotana Su:ri (A.D. 779) contains several points of interest in terms of linguistic attitudes. In the *Kuvalayama:la:*, we see the author's perception of Sanskrit, Prakrit, Apabhraṃśa and Paśā:ci:. A setting is created in the narrative as follows. A prince is sitting under a tree, and he hears a conversation. He tries to identify the language by gradually considering and eliminating different possibilities. He says that what he heard could not be Sanskrit. Sanskrit is extremely hard to understand with the long compound, particles, cases, genders, sandhi changes, etc. and it is as harsh as the heart of a wicked person. The conversation the prince heard was not like that. It would not be Prakrit. Prakrit is full of descriptions of different arts, oceans, worlds, great men, etc. and it is made up by putting together different discrete words. It is as pleasant as the heart of a good person. The conversation overheard was not like that. It could not even be Apabhraṃśa. Apabhraṃśa is made up of even and uneven, correct and incorrect Sanskrit and Prakrit expressions. It is like a mountain river flooded with the waters of the first rain. It is uneven, and is beautiful like the speech of a lover and his beloved fighting a love-fight. Since the conversation he overheard was not even

Apabhramśa, the prince infers that it must be in Paisāci, the language of the goblins, i.e. inferior tribal people.

Ra:jaśekhara is more balanced in his *Ka:vyami:ma:mśa:* where he shows equal respect for Sanskrit and Prakrit. However, in other words, he shows a distinct preference for Prakrit. He says that while Sanskrit compositions tend to be masculine and terse (*parusa: sakkābandha:*), Prakrit compositions are feminine and delicate. Prakrit poetry is sweet by nature (*amiam pāuakavvam*). Uddyotana in his *Kuvalayama:la:* says that Sanskrit is as harsh as the heart of a wicked person while Prakrit is as pleasant as the heart of a good person. This is harsher than Ra:jaśekhara's criticism. The strongest attack against Sanskrit is launched by the Jaina poet Jayavallabha in his *Vajja:laggam* (between A.D. 750 and A.D. 1387). He begins his attack on Sanskrit without mentioning it directly: "Those who do not know how to read and appreciate the sweet nectar of Prakrit poetry, how do they not feel ashamed while pretending to carry on a discussion about the true nature of love?". The climax of the attack is reached when Jayavallabha pronounces his curse upon Sanskrit: "Let Sanskrit poetry be burned down, and also let him who composes Sanskrit poetry be burned down. When the house of Sanskrit poetry starts burning up, it produces real crashing sounds".

Relation between Prakrits and Dravidian

Prakrit languages have converged with Dravidian languages in certain phonological developments as well as Sandhi operations. Prof. Emeneau, Kuiper and others have indicated also syntactic and semantic convergence between these two language groups. A few important features among them may be listed here.

- (i) It is now shown conclusively that it was Dravidian which was responsible for the emergence of retroflex consonants in Sanskrit. Further, intervocalic /l/ and alternant of /d/ in Rigvedic dialect reminds us of only Dravidian system where it is found. Retroflex consonants become much more frequent in the Prakrits as compared to Sanskrit which has happened due to deeper contact of Dravidians with them.
- (ii) Dravidian had only medial stop geminates or sequences of nasal and stop. This fact, it is argued, may have contributed to the development of geminates in Prakrits. Similarly, the presence of single initial stops in Dravidian may have been responsible for the reduction of initial consonant clusters to single stops in Prakrits. It is explained that the

Dravidian bilinguals in Prakrits effected such changes since they were not used to consonant clusters in their own languages.

- (iii) Voicing of intervocalic single voiceless stops in Prakrits is another contribution of Dravidian, since it was not a rule in Indo-Aryan and is not found in Sanskrit.
- (iv) The morphophonemic system of Sanskrit is greatly impoverished in Prakrits. For one thing, sandhi is not strictly obligatory in Prakrits. Many of the types are completely lost. Even the ones which are operative apply optionally. It is suggested that language contact may be one of the reasons for this fluid state of sandhi operation. Among the bilinguals, the number of those with Dravidian as mother tongue may have been greater than those with Sanskrit as their first language. Consequently, the Dravidian speakers may have introduced the features of their language into their newly acquired Aryan speech. The loss of operations termed *yana:desa*, *guna* and *vrdhi* in the Prakrit languages may be directly attributed to Dravidian influence. Further, one of the very common type of sandhi operations in Prakrits, i.e. the first of the two vowels in a sequence differing in quality getting deleted, recalls clearly the Dravidian sandhi rule.
- (v) Though we may notice the beginning of nominal constructions in later Sanskrit, we find such constructions becoming commoner in the Prakrits. Since they are not found in Vedic, it is suggested that this development in Prakrits may be due to Dravidian influence as these languages abound in such constructions. It is interesting that in both groups such constructions are possible only when the verb which could have been expressed was the verb 'to be'.

Contribution of Prakrits towards Arts and Sciences

The Jainas (and the Buddhists) have through their literature contributed so much to other fields of knowledge that it is not possible here to exhaustively treat the same in this short paper. We will be content, however, to point out a few important contributions, keeping in view the interest of our readers.

- (i) The clue to the decipherment of the *Brahmi* and *Kharosthi* scripts was obtained from bilingual coins struck by the Greek princes who ruled over part of Afghanistan and Punjab from ca. 200 B.C. to about 25 B.C. These coins regularly bear on the obverse a Greek legend

giving the name and titles of the king, and on the reverse a translation of this legend in Prakrits and one of these Indian scripts or characters. The names of the kings in their Indian guise were identified by Prinsep with their Greek equivalents. The clues thus obtained gradually led to the explanation of the Indian titles on the coins with their Greek equivalents, and led, after many years of patient work and research, to the decipherment of long inscriptions found in many parts of India, engraved on stone or copper plates.

- (ii) For reconstruction of the early Indian history, it has been emphasized that the *Puraṇa*-s occupy an important position as good sources. However, it has been indubitably shown that the collateral evidence based on Prakrit sources as found in Jaina texts, is of first-rate importance to check or modify the results so obtained. In the inscriptions of Aśoka, the oldest documents in the Middle Indo-Aryan inscribed on stone, we notice that the main object of these records is the inculcation of Dhamma, the true basis of life here and hereafter. It is only incidentally and by way of illustration that secular aspects are mentioned, and even so they are sufficiently vivid to enable historians to reconstruct the brilliant period of Mauryan rule in India. The central ethical concept which Jainism (and Buddhism) emphasized and ultimately imprinted on the national consciousness was the doctrine of Ahimsa; both gross and subtle, physical and extra-physical. The manner in which the religious doctrines were conveyed to the common man appears, however, to be a characteristic popularity of this early Prakrit literature. The Jainas, like the Buddhists, delighted in adorning all their religious sermons with the telling of stories, religious or secular, converting the latter for elucidating Jaina doctrines, and exploited the inherent Indian tendency towards the story literature.
- (iii) Another useful contribution of Middle Indo-Aryan may be seen in the field of metrics. The usual classical Sanskrit metres are measured by the number of syllables (*akṣaracchanda*-s) but the metres in which the sum-total of morae only is fixed, i.e. *ma:tra:cchanda*-s, allowing however for a variation of the number of syllables subject only to certain restrictions, appear to have come from popular poetry. If the treatises on Prakrit versification are studied, it will be clear that these *ma:tra:cchanda*-s or *ta:lavṛtta*-s are indeed the norm of Prakrit poetry. These *ta:lavṛtta*-s not only affected the metrics of classical Sanskrit poetry but have effected their entry into the new Indo-Aryan vernaculars, in the popular metres found, for instance, in *Ra:macaritamā:na*-s.

On examination, all the popular north Indian vernacular *ma:tra:cchanda*-s appear to have been inherited directly from corresponding Middle Indo-Aryan metres, with necessary modifications. One of the most comprehensive texts dealing with this kind of metrics is Hemacandra's *Chandonuśa:sana*.

- (iv) In the area of Linguistics, Hemacandra Su:ri may be said to have provided us with a historical grammar of Indo-Aryan of which Prakrit forms the later stage and Sanskrit its earlier stage. Our understanding of sound changes was achieved in modern times in the field of Indo-European Linguistics when Jacob Grimm was trying to point out the relationship between Germanic obstruents. He indicated Germanic representation of Indo-European obstruents by means of correspondences which were termed 'sound shifts'. However, Grimm had little knowledge of phonetics. The distinction between a phonetic change and a phonemic change which was not known to the Neogrammarians became clear only after the development of phonemic theory in structural linguistics. On the other hand, it can be shown that long before, in the 12th century A.D., Hemacandra was aware of the changes that sounds suffer from one stage to another. He has in his treatment of Prakrit languages carefully observed such changes and has neatly classified them. His understanding and presentation of sound changes were more comprehensive in that he had known not only the distinction between conditioned change and unconditioned change but also had clear knowledge of phonetic environment. Hemacandra's theoretical framework was more broad-based than the Western tradition in which only phonetic conditioning had been thought of in the early period. Unlike the terms 'shift', 'change', Hemacandra's use of the colourless term 'replacement' may be said to be a better choice. In this sense, it has been applied very late in the Western tradition, first by Henry Hoenigswald in his *Language Change and Linguistic Reconstruction*. It is unfortunate however that due recognition is not accorded to this great Indian linguist and his study is not included in any survey of the history of Linguistics.

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PREHISTORIC IMPLICATIONS OF THE DRAVIDIAN ELEMENT IN THE NIA LEXICON WITH SPECIAL REFERENCE TO MARATHI¹

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Abstract

An investigation of non-Indo-Aryan words in Marathi shows that about five percent of its core vocabulary is borrowed from Dravidian languages, mostly from the Kannada-Tulu group, with a few from SD₂ (Telugu, etc.) and CD languages. An equal number of core vocabulary words are of unidentifiable origin. Since there is evidence for an earlier Dravidian-speaking population in Maharashtra, it seems likely that the first Indo-Aryan speakers to enter the Deccan came into regular contact with speakers of Dravidian and other (unknown) languages, and probably had a fairly high level of bilingualism. The archaeologists Bridget and Raymond Allchin have suggested that the arrival of Indo-Aryan speakers in this region may have been associated with the beginning of the Jorve culture around 1500 B.C.E.

Some of the (Dravidian and other) words are found in other NIA languages, some of them as widely distributed as words of impeccable Proto-Indo-European origin such as the words for 'brother', 'foot', 'ten', etc. This appears to indicate that these words entered Indo-Aryan before, or soon after, the Indo-Aryan speakers arrived in the subcontinent. The proposed identification of Marathi speakers with the Jorve culture would imply that speakers of Indo-Aryan had already entered the Deccan at a time when the composers of the Rigvedic hymns were still located in Punjab. If this was the case, then some speakers of Indo-Aryan would have had to pass through the Indus Valley several centuries earlier, say by 1800-1700 B.C.E. In this case, the earliest stage of contact between Indo-Aryan and Dravidian speakers, represented by the more widely shared words discussed above, would need to be placed in the neighbourhood of 2100-2000 B.C.E., implying that Indo-Aryan speakers entered the Indus Valley before the end of the Indus Civilization. Nothing in the linguistic evidence opposes such a notion but further work is needed on both the linguistic and archaeological aspects of the question.

1. This is a revised version of a paper presented at the VI Harvard Round Table Conference on South Asian Ethnogenesis, Cambridge, MA (U.S.A.), on 8 May 2004. Comments by Michael Witzel and other attendees at the conference have been incorporated into the paper, and are gratefully acknowledged.

Introduction

In his article, *Substrate Languages in old Indo-Aryan* (Witzel 1999), Michael Witzel has shown us that the analysis of foreign words in the oldest Indo-Aryan can tell us a great deal about the times and places of prehistoric contact between speakers of Indo-Aryan and other linguistic groups speaking Austro-Asiatic, Dravidian, Sino-Tibetan and other unknown languages. (See Southworth, in press, Chapter 3, for further discussion of this issue.)

A preliminary investigation indicates that there is a wealth of similar information to be obtained from analysing the NIA languages from this point of view, allowing us to formulate some more precise ideas of when and where prehistoric language contact occurred, and even to identify some of the specific branches of language families involved. And though NIA languages are only attested since the beginning of the second millennium C.E., they provide evidence for contact situations which may well go back to the early first millennium B.C.E., if not earlier. The present paper presents some initial findings of an ongoing study of Dravidian and other elements in the NIA lexicon.

Marathi Words of Dravidian Origin²

Table 1 shows examples of words of Dravidian origin in Marathi core vocabulary.³ For this paper, I have chosen to focus on basic or core

2. Though the criteria for inferring linguistic borrowing are well known, it may be worthwhile to say a few words about the criteria used here. Apart from the requirement that a putative loan must sufficiently resemble its presumed source phonologically and semantically to make the assumption of borrowing plausible, evidence must also be adduced for (1) **contiguity** of the languages in question, and (2) the **direction** of borrowing. Though in some cases loanword evidence may lead to an inferior of prior contiguity (as in the case of the presumed Dravidian borrowings in OIA, where there is no other evidence for contiguity), such arguments are not used in connection with the words in Table 1: in all cases, we are dealing with branches of Dravidian which are contemporarily contiguous with the area of Marathi-Konkani speech. In the case of words of **unknown** origin, such an inference must of course be made, though we cannot (as yet) name or describe these languages.

The direction of borrowing is generally established by showing the greater age of a word in the source language than in the borrowing language. In the cases listed in Table 1, the source word is more widely attested in Dravidian than in Indo-Aryan, with the exception of **phal** 'fruit', a controversial word.

3. Abbreviations and symbols used in tables:

DEDR	Dravidian Etymological Dictionary (Rev. Ed.)		
CDIAL	Turner 1966	PD	Proto-Dravidian
SD	South Dravidian	CD	Central Dravidian
AA	Austro-Asiatic	(?)	origin controversial
@	variable vowel ending (adjectives)	ə =	[ə : ~ e:]

i, u are long in final syl./monosyl. followed by single consonant or Ø, otherwise short. (Items from the Swadesh 200-word list are preceded by numbers indicating their position in the list.)

Abbreviations of OIA source documents are those used in Turner's CDIAL.

Abbreviations for Dravidian languages: Ta = Tamil, Ma = Malayalam, Ko = Kota, To = Toda, Kg = Kodagu, Tu = Tulu, Te = Telugu, Kl = Kolami, Nk = Naiki, Pa = Parji, Ga = Gadaba, Go = Gondi, Kd = Konda, Pe = Pengo, Md = Manda, Ki = Kui, Kv = Kuvi, Ku = Kudux, Mt = Malto, Br = Brahui.

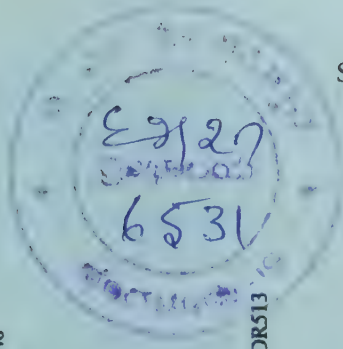


TABLE 1. WORDS OF DRAVIDIAN ORIGIN IN MARATHI CORE VOCABULARY

SOURCE	MARATHI WORD	OM Att.	IMMEDIATE SOURCE	PROTO-FORM
1. Drav. (unspec.)	10. pot 'belly'	1330		PD *pot- DEDR4494
	59. (?) phal 'fruit'	1290		*PD *paz-V- DEDR4004
	134. buti@ 'short'	----		PD *pot- DEDR4529
	cin(u)k(i)@ 'tiny'	----		PD *cinn- DEDR2594
	met 'knee-joint'	----		PD *man- DEDR4677
	tond 'mouth, face'	1278		PD *ton- DEDR3311
2. Drav. (SD)	14. kal@ 'black'	kāla- 1288	Ka kāz- Tu kāl-	PSD *kāz- DEDR1494
	164. dāṭ 'thick'	1278	Ka dāṭa	PD *taṭ- DEDR3020
	177. okṇe 'vomit'	oka 1300	Ka Tu okk- Tu ömk-	PSD *ōkk- DEDR1029
	kade 'side, direction'	1290	Ka Tu Te kadā	PD *kaṭ-aI DEDR1109
	matsya 'mole on skin'	----	Ka Te maeca	PD *maccu DEDR4632
	bālaṇt(la) 'lying-in woman'	1278	Te bāl-inṭa/enṭa	PSD *val-ant- DEDR5347
	boṭ 'finger, toe'	1290	Ka boṭṭu Go boṭ(i)a	PSD *pot- DEDR4493
	maṅgaṭ 'wrist, ankle'	----	Ka Te maṇi-kattū	PD *maṇi-ka(n)ṭu DEDR4673
	māṇḍi 'thigh'	1278	Ka māṇḍ	PSD *maṇṭi DEDR4677
	cimutṇe 'squeeze, pinch'	1290	Ka cimutū	PSD1 *cim-i(n)ṭ(u)ṭ- DEDR2540
	niṭ 'neat, proper'	1290	Ka Tu niṭa	P(S)D *niṭa DEDR3739
3. Drav. (SD1)	97. āi 'mother'	1353	Ka āyi	†PD *āy DEDR364
	meene 'approve'	mecu 1290	Ka meecu Tu meecumi	PD *meecu- DEDR4722
	śimpṇe 'sprinkle'	1290	Ka śimp-	PSD *cim(p)- DEDR2548
	gḍḍ(i)@ 'short & thick'	----	Ka gḍḍu	PSD1 *kiṭṭ- DEDR1670
4. Drav. (SD2)	68. ḍokə 'head'	ḍoṭ 1278	Ki ḍōka 'pot' (< *kḍōka)	PD *kuṭṭak(k)a- DEDR1651
	87. ḍāv@ 'left'	ḍāv 1290	Te ḍā	PD *ṭaI DEDR449
5. Drav. (SD2/CD)	lek 'child'	1290	Te lēka Nk lēṅga	PSD2 *lenk- < PD ṭa(n)(k)- DEDR513
	karapṇe 'scorch'	1278	Pa karup-	PD *karu- DEDR1278

† Denotes reconstructions from Krishnamurti 2003:523-33.

vocabulary, i.e. non-cultural vocabulary, as these words have a greater chance of being old. The third column of the table indicates the approximate year of attestation of the word in Old Marathi; while this does not prove great antiquity, it at least eliminates the possibility of recent borrowing. In addition, there are phonological grounds for eliminating certain late borrowings.⁴

This list is not exhaustive. About five percent of Marathi basic vocabulary is of Dravidian origin. Perhaps the most telling of these Dravidian words is the word *āi* 'mother', which is found in all the major dialects of Marathi - and, in contrast to other Indo-Aryan languages which have some form of this word, in most varieties of Marathi this is *the* word for 'mother' which children learn as infants. Additional words of Dravidian origin include numerous words for parts of the body, as well as words of common everyday parlance such as the words for 'left', 'vomit', 'side', and verbs for common activities such as 'scorch', 'pinch', 'sprinkle'. The list of borrowings also includes the postposition *kaḍa* 'toward', whose source is a PD verb meaning 'pass (through)', with a derived noun meaning 'end, direction, side', etc. The word *kaḍe* is commonly used throughout Marathi-Konkani, most commonly as a locative postposition with the meaning 'toward, in the direction of' (as in *gāvā-kaḍe* 'toward the village') and as a marker of possession (*tujhyā-kaḍe kiti payse āhet* "thou-with-how-much money is" = 'how much money do you have?'); note also *ikḍe* 'hither' (cf. The *ik-kaḍa*, *ī-kaḍa* 'this place, here'), *tikḍe* 'thither'.

Most of the words of Dravidian origin in Marathi appear to come from the languages immediately to the south, i.e. Kannada-Kodagu-Tulu (belonging to the Kannada-dominated branch of South Dravidian-1, as opposed to the Tamil-dominated branch further south), or possibly from an

4. Certain changes which took place in pre-Marathi, some of which also affected other NIA languages, have also affected the Dravidian loans, implying that they must have been borrowed before the earliest Marathi texts of the 13th century C.E. The change $C_1C_1 > C_1$ (simplification of geminate consonants) with lengthening of the preceding vowel, as in MIA *saṭṭa* '7' > M *sāt*, probably took place some time in or before the 10th century CE, and affected most of the NIA languages, Punjabi-Lahnda being the main exception (Masica 1991: 187-8, 197). Thus, words like M *ḍāt* 'thick', *tāt* 'dining plate', *māg* 'loom', *sutki* 'stone-splitting tool', *mud* 'lump of boiled rice', *pal* 'lizard', when compared with their probable sources (respectively Ka *datta tatte magga suttige mudde palli*), can be presumed to have been borrowed before this change, i.e. before 1000 CE. Conversely, M borrowings from Ka which do not undergo this change, such as *palli* 'lizard' (doublet of *pal* cited earlier, both from Ka *palli*), *pucci* 'vulva' < Ka *pucci*, presumably were borrowed later, at a time when double consonants had been reinstated in the language. (The words *butt@* 'short' and *gidd@* 'short and thick' should perhaps have been excluded here for this reason. On the other hand, expressive words of this type are often found with geminate consonants in Marathi, as well as in other NIA languages: e.g. *pakk@* 'definite', *kacc@* 'raw', *khat(1)@* 'saltish, sour'.)

extinct sister language of this group. Borrowing from this source has continued up to modern times, but, as noted above, words which show evidence of recent borrowing have not been included here. On the other hand, there are phonological clues indicating that some of these words came to Marathi from other branches: for example, the words for 'head' and 'left' both show a change characteristic of South Dravidian-2, the Telugu-dominated branch of South Dravidian, a change which Krishnamurti (2003: 157 ff.) calls "apical displacement", in which an initial vowel metathesizes with a following apical consonant and then merges with the following vowel. This is one of the sources of initial retroflex consonants in Dravidian languages, which did not occur in Proto-Dravidian.

In addition to the words discussed above, which are of probable Dravidian origin, Marathi basic vocabulary contains the following words of unknown or uncertain origin: 8. *sāl* 'bark', 20. *por(gā/gi)* 'child', 20. *mul* 'child', 21. *dhag* 'cloud', 30. *kutrā* 'dog', 33. *bothat* 'dull', 35. *kān* 'ear', 37. *jevne* 'eat a meal', 38. *andā* 'egg', 39. *ḍolā* 'eye', 45. *pis* 'feather', 47. *ladhne* 'to fight', 61. *cāngl@* 'good', 62. *gavat* 'grass', 71. *jad* 'heavy', 84. *talā* 'lake', 93. *u* 'louse', 98. *ḍongar* 'hill, mountain', 121. *mul* 'root', 126. *vālu* 'sand', 150. *bhosakne* 'stab', 154. *dagad* 'stone', 155. *saral* 'straight', 174. *jhād* 'tree, shrub', 189. *rund* 'wide', 197. *kiḍā* 'worm'. As in the case of Dravidian, there are many additional non-cultural words of unknown origin, including *vālne* 'to dry', *(o)radne* 'to weep, shout', and others which will be discussed in future publications. Munda or Austro-Asiatic origin has been suggested for some of these items: e.g. nos. 30, 37, 38, 84, 174, and Dravidian origin for some others, including nos. 35, 61, 154.

Taken altogether, it is clear from these lists that numerous words of non-IE origin, including a sizable segment of Dravidian words, are deeply embedded in the Marathi language, and are not the result of recent border contact. Some, in fact, are shared with other NIA languages, a matter to be discussed below. Examining the non-core borrowings, we find words referring to numerous branches of basic technology, including agriculture, cooking and food processing, sailing and shipbuilding, carpentry, weaving and stitching cloth, metal tools and utensils, musical instruments, as well as flora and fauna and other features of the environment. Many of these words may also be very early borrowings in Marathi; at least, there is nothing in their meanings or their phonology to prove them to be recent borrowings.⁵

5. It is likely that there was substantial borrowing in the other direction, i.e. from Marathi into the adjacent Dravidian languages, though it is sometimes difficult to identify the exact source of Indo-Aryan loanwords in Dravidian languages. A few possible examples (from Emeneau & Burrow 1962) are: 37. Ka *ārogana* 'eating, a meal': Old Marathi *ārōgana*, 43. Ka-Tu *ugrāni* 'storekeeper': M *ugrāni*, 109. Ka *kumbāra* 'potter', Tu *kumbāre*: M *kumbhar*. However, no words of Marathi origin have been pointed out in the core vocabularies of these languages.

The evidence of placenames⁶ and river names (see Ramachandran & Nachimuthu 1987, Witzel 1999: 53, Southworth in press, ch. 9) tells us that one or more Dravidian languages were spoken earlier in the area now known as Maharashtra, and it is likely that words of Dravidian, Austro-Asiatic and other origin began to enter pre-Marathi from the time when speakers of Indo-Aryan first moved into the Deccan, if not earlier. While borrowing of words takes place in any contact situation, borrowing of core vocabulary tends to be very slow except under special circumstances. Extensive borrowing of core vocabulary is more likely to take place when small groups of immigrants enter an area under circumstances that bring them into daily interaction with members of other groups, a situation which usually leads to widespread bilingualism. It is reasonable to assume that the early speakers of Indo-Aryan in the Deccan found themselves in a situation comparable to that of speakers of isolated languages like Kasargod Marathi (the language of an isolated group of farmers surrounded by Malayalam speakers in northern Kerala) or speakers of Saurashtri (a form of Gujarati spoken in Tamil Nadu). Apart from the extensive borrowing of core vocabulary, the presence of words of various grammatical categories, such as verbs and postpositions, among the loanwords, is also suggestive of a more intimate form of contact (see Southworth in press, ch. 4).

Distribution of Non-IE Words in the NIA Languages

As noted above, some of the words discussed in the previous section are found in other NIA languages, and indeed some are attested in older stages of Indo-Aryan, viz. OIA or MIA. Table 2(A) shows the distribution within NIA of some of the words from Table 1, plus some other words for which Dravidian origin has been claimed. Within this group of words, it is useful to distinguish at least four patterns of distribution. Starting at the bottom with no. 11, the Marathi word *dāt* 'thick' appears only in Marathi and not in any other NIA language. There are a number of words of this type, indicating that Marathi has borrowed words from Dravidian languages that do not appear in other NIA languages: e.g. the words for 'knee', 'finger / toe', 'thigh', 'approve', 'sprinkle', 'scorch' and others listed in Table 1. This should not surprise us, given that Marathi-Konkani is even now more in

6. Marathi placenames show a number of suffixes which are most probably derived from Dravidian languages (Southworth in press, ch. 9). The Dravidian suffixes for the most part point to South Dravidian languages as their sources, though there are a few cases which might indicate other sources within Dravidian, e.g. two cases of the village name *ciroli* in eastern Maharashtra: the suffix *oli* is from *vali* < PD **palli* DEDR 4018, while the initial element *cir* may represent a Dravidian form **cīr(e)* 'chironji nut tree', a word found in this form only in Central Dravidian languages.

TABLE 2. DISTRIBUTION OF SELECTED NON-IE WORDS IN NIA

A. DRAVIDIAN		Source	Item	Dist:	OIA	Pa	Pk	Gy	D	Kf	Dr	K	S	PL	Ph	N	A	B	O	Bi	Av	H	R	G	M	Ko	Si
1	PD		OIA k̄āla 'black' 3083 [†]		Mbh	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2			OIA phala 'fruit' 9051		RV	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3			OIA d̄anda 'stick, handle' 6128		RV	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
4			OIA gaṇḍa 'joint of plant' 3998		lex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
5			OIA kuṇḍa 'bowl, pot' 3264		Mbh	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6	SD2		*ḍava etc. 'left' 5539		-		+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
7	PD		*āi 'mother, aunt' 997		-						?	+					+	+	+	+			+	+	+	+	+
8			OIA kaṭi 'hip, side' 2639		Mn	+	+									+	+		+		+			+	+	+	+
9	SD		*maṇigaṇṭhi 'wrist' 9734		-											?	?	+			+			+	+	+	+
10	SD2		*ḍok(k)a 'head' 5566		-						?										+			+	+	+	+
11	SD1		Marathi dāt 'thick'		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. OTHER																											
12			OIA āṇḍa 'egg' 1111 [†]		RV	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
13			OIA karna 'ear' 2830		RV	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
14			OIA yūkā 'louse' 10512		Mn	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
15			OIA mūla 'root' 10250		RV	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
16			*buṭṭa etc. 'defective' 9268		-	-	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
17			*kutt(ir/ūr)a 'dog' 3276-8		-		+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
18			OIA jēmati 'eats' 5267-9		Dhāt.		+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
19			OIA jhāṭa 'forest' 5362		lex		+					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
20			OIA tadāga 'pool' 5634		SāGr	+	+	+					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
21			OIA lāṅgala 'plough' 11006		RV	+	+							+			+	+	+	+	+	+		+	+	+	+
22			*ḍuṅga(r̄a)/ḍo- 'hill' 5423(12/13)		-	-	+							+	+	+		+	+	+	+	+	+	+	+	+	+
23			OIA runda 'rich in' 10781		Lex	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Source		Item	Dist:	OIA	Pa	Pk	Gy	D	Kf	Dr	K	S	PL	Ph	N	A	B	O	Bi	Av	H	R	G	M	Ko	Si

[†] Reference numbers refer to Turner's Comparative dictionary of the Indo-Aryan languages.

contact with Dravidian languages than other NIA languages except for Oriya.⁷

On the next level, lines 9 and 10 show cases where words occur in Marathi and other neighbouring languages, pointing to the possibility that Marathi may have served as an intermediary for Dravidian words to enter adjacent languages. Again, this would not be surprising, given Marathi's geographical location.⁸ The preceding three cases (lines 6-8) show a similar but wider distribution, with words represented in Marathi and other languages of the "southern tier" including Sindhi, Gujarati, Hindi and Oriya, plus languages adjacent to these, but not represented in the northernmost languages, such as those of the so-called "Dardic" group. These examples might represent further spread of words of the previous type, or might represent an earlier stage of contact - for example, those who believe in the "outer" group of Indo-Aryan might posit that words with this kind of distribution were acquired by the branch of Indo-Aryan from which the languages of the southern tier are descended, possibly reflecting contact which took place as speakers of this language were passing through Sindh on the way from the Upper Indus Valley to the region south of the Vindhyas (for discussion of the "outer group" hypothesis, see Southworth in press, chs. 5-6).

Finally, there is a group of words (lines 1-5) which are very widely represented in NIA languages - including, significantly, the languages of the Kafir or Nuristani group, which are located in the far northwest and are generally thought to be historically intermediate between Indo-Aryan and Iranian. In fact, the distribution of these words is approximately identical to that of solid Indo-European words like the words for 'brother', 'father', 'foot', the numbers 1-10, and the like, providing a strong suggestion that these words were either brought into South Asia with the earliest speakers of Indo-Aryan, or were acquired at a very early period thereafter. It may be noted that the words in Table 2 (B), those of Munda / AA and uncertain / unknown origins, show similar distributional groupings, suggesting that in these cases also, some words entered spoken Old Indo-Aryan at a very early period, while other words may have been transmitted over limited areas

7. This more intensive contact between Marathi and Dravidian is reflected in the relative sizes of the indexes for Indo-Aryan languages in the DEDR: those for Marathi and Old Marathi contain over 200 items, while Hindi-Urdu accounts for 67 items, Oriya for 26, Halbi for 16, Sinhala for 14, Bangla and Nepali for 14 each, Punjabi for 7, Gujarati and Sindhi for 6 each.

8. It is not clear what variety of "Hindi" is represented by these words in the CDIAL entries: it is possible that, in some cases, they belong to southern Hindi, e.g. the Bandeli of Madhya Pradesh, which is adjacent to Marathi. The Hindi words for 'head' in CDIAL 5566 are not listed in the Platts of MacGregor dictionaries; both dictionaries list the word for 'wrist' of CDIAL 9734, but Platts designates it as dialectal.

after the partial dispersal of Indo-Aryan speakers. Further study of the distributional patterns of these classes of words will be needed to establish an understanding of the times and places at which they appeared in Indo-Aryan.

Conclusions

Marathi is descended from the speech of groups of early speakers of Indo-Aryan, who entered the territory corresponding to the modern Marathi-speaking state of Maharashtra at a time when it was occupied by speakers of several other languages. The primary contact between pre-Marathi and Dravidian was probably with a language, or group of languages / dialects, which might be designated loosely as "Proto-Kannada" (possibly a stage that preceded the differentiation of Kannada, Koraga and Tulu) along with possible lost sister languages of these. In addition, there was probably some contact with Dravidian languages of other branches, including SD₂ and CD, perhaps mainly in eastern Maharashtra, as well as with Munda / AA languages, and with some yet unknown language(s). Languages of both SD₁ and SD₂ still abut the borders of Maharashtra, and CD languages are spoken in eastern Maharashtra. The Munda language Korku and the isolated language Nahali / Nihali are still spoken in Maharashtra. The nature of the borrowed words suggests that, at least in the early stages, this was a case of intimate contact involving daily interaction among speakers of different languages.

Bridget and Raymond Allchin, speaking of the chalcolithic Jorve culture, which flourished in Maharashtra between the mid-second millennium and the early first millennium BCE⁹, make the following statement:

We may postulate that the original population of agricultural settlers was Dravidian-speaking, and that the changes associated with the Jorve period coincided with the arrival of immigrants from the north, speaking in Indo-Aryan language. This language must have been the ancestor of modern Marathi (1982: 352).

The sites of the Jorve culture are located on the upper reaches of the Godavari river system. The earlier culture phase at these sites, known as the Malva culture, was characterized by "pre-Chalcolithic Neolithic elements" which can be linked to the Neolithic cultures of the Andhra-Karnataka region which flourished between about 2300 and 1400 BCE, represented on

9. S.B. Deo's dating: 1400-700 BCE; V.N. Misra: Early Jorve 1500-1200, Late Jorve 1200-900 BCE; Allchins: 1500-1050 BCE.

this map by the sites on the Krishna river.¹⁰ If it is true, as I have suggested (Southworth in press, ch. 8) on linguistic grounds, that Proto-Dravidian was spoken in the lower Godavari basin in the early-to-mid third millennium BCE (though there is as yet no independent confirmation of this), then Dravidian-speaking groups may also have travelled up the Godavari into Maharashtra. (The rivers mentioned above with Dravidian names are upper tributaries of the Godavari system.)

The Jorve sites are located in the western part of the Maharashtra plateau known as the "Desh", in the districts of Pune, Aurangabad, Ahmednagar and Solapur. This is the area where, according to the locations of placenames, one would expect to find the earliest Marathi speakers. It is also the area where the earliest dynasty of the region, the Satavahanas, originated in the first century BCE. Of course, the connection between Marathi and the Jorve culture is not proven; though suggested by reputable archaeologists, it can only be considered a working hypothesis.

The language of the Rigveda, the oldest known form of Indo-Aryan, is datable to about 1500 BCE at the earliest.¹¹ The proposed identification of Marathi speakers with the Jorve culture would imply that speakers of Indo-Aryan had already entered the Deccan at a time when the composers of the Rigvedic hymns were still located in Punjab. If this was the case, then the assumed passage of the "outer group" languages through Sindh would have had to begin at least several centuries earlier, say by 1800-1700 BCE, and the earliest stage, represented by the more widely shared words discussed in section 2 above, would need to be placed in the neighbourhood of 2100-2000 BCE, implying that "outer group" Indo-Aryan speakers entered

10. In a discussion of the Chalcolithic cultures of the Deccan, S.B. Deo points out that the Malva culture of the northern and central Deccan (dated in the range of 2300 (\pm 70) BCE at Navdatoli on the Narmada, down to 1025 (\pm 170) BCE at Inamgaon on the Ghod, a tributary of the Bhima) shows the presence of "pre-Chalcolithic Neolithic elements" which are presumably to be traced to Neolithic cultures of the Andhra-Karnatak region which flourished between 2295 (\pm 155) and 1360 (\pm 210) BCE. There are no purely Neolithic sites in the region of these Chalcolithic cultures (Deo 1982: 17-8). Deo also notes that the Malva culture itself seems to have flourished first in central India (the present Madhya Pradesh) and "descended in the Deccan at a later period, i.e. in about the 16th century" [BCE] (1982: 23). The subsequent Jorve culture as a whole ranged between 1400 and 700 BCE (1982: 17). The sites of both cultures are found primarily in the western part of the plateau in the river systems of the Godavari and the Bhima (a tributary of the Krishna). Some sites show evidence of contact with a Megalithic culture, which flourished during the 6th and 7th centuries BCE, largely in the area of Vidharbha (*varhād*) (1982: 35-44).

11. The Mitanni treaty of 1380 BCE mentions major Rigvedic gods, and shows a linguistic stage slightly older than the RV; the end of the Indus Civilization around 1900 BCE is presumed to have preceded the oldest RV hymns. Since Saraswati, which dried progressively after the mid-second millennium BCE, is described as a mighty stream in the Rigveda, the earliest RV hymns must have been composed by about 1500 BCE (Witzel 1995: 97-8).

the Indus Valley before the end of the Indus Civilization. While this is not impossible, there is no evidence to support such an assumption at present. Further work on reconstructing the earliest forms of the Indo-Aryan lexicon based on the spoken language may help to provide light on this subject.

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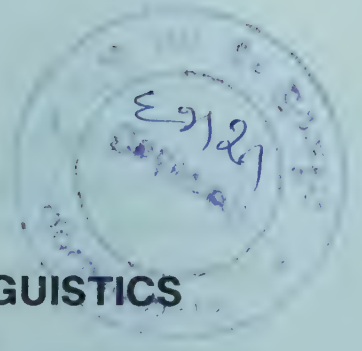
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TOLKAPPIYAR'S CONCEPT OF LINGUISTICS OF LITERARY LANGUAGE

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Abstract

In the West, literary criticism is being developed along with development of new linguistic theories. One of the latest theories is called linguistic criticism. Tolkāppiyam, the earliest extant grammar in Tamil, deals with the grammar of the language and literature. So, an attempt is made to study how certain linguistic concepts could be used for the literary studies and how some of the literary concepts could be interpreted linguistically so that one could understand the language of the literature and appreciate it more fully. Besides, it will be helpful to develop our own theory of interpretation of literature.

Introduction

Literature is a linguistic monument of a speech community concerned. Unlike other heritages like buildings and paintings, literature is a living monument because it is like a source book as well as a guide book even today, as it deals with the complexities of human life in a more comprehensive way through which one can see the life in action and model one's life. Grammar is another monument of a different type, i.e. a show-piece of the scientific spirit of the language community. Grammar in the earliest period was written mostly to help the study of literature.

Any speech community which inherits monuments should utilize them and at the same time preserve them for future generations. To utilize them, one has to study them, to know the past and their relevance to the life of the present-day community and society by new interpretations. At the same time, one has to project the achievement of his/her society to other speech communities, through which they could be proud of their heritage. The study is one of the ways of preservation of the linguistic monuments, to the future generations. The study should identify the elements in terms of modern theory, interpret them correctly and finally try to expand the concepts wherever possible.

Linguistics deals with how the form of the language correlates with the meaning, but in literary language, form also has some meaning in addition to the connotational meaning at all levels of language. Therefore, Linguistics of literary language should go beyond formal Linguistics.

Tolkāppiyam

It is a well-known fact that the earliest extant grammatical work in Tamil, *Tolkāppiyam*, is a linguistic monument of the ancient Tamils. It contains three sections in which the third section called *poruḷ* deals with the literary themes, form or prosody, rhetoric, literary genre, etc. But the first two sections, describing the linguistic structures, phonology and grammar, contain not only the special features of literary language but also some special aspects of literary language. Certain common rules could also be used for the linguistic study of poetic language. For instance, the restriction of use of words, *i:*, *ta:* and *koṭu* in terms of social hierarchy can be extended to the study of social dialects in the poetic language. Similarly, there is some overlapping between *eccam* 'implicative' in the second section and *eccam* as one of the components of poetry.

The so-called special features belong to the different aspects of linguistic structure. Those which are described in the phonology are mostly archaic features (*purā:* → *puravu* 'dove' (S. 234)) except one or two colloquial features of his time (*po:lum* → *po:n̄m* 'like that' (S. 51)) and those which are described in the grammar (second section) belong to different aspects:

- i. *Lexicon*: archaic language (second case form -*a*) S. 592
- ii. *Syntax*
 - (a) sentence fronting (in the case of two sentences having proper noun and demonstrative noun) S. 522
 - (b) use of non-restrictive adjectives: (*va:n̄ to:y imayam* 'sky touching Himalaya') S. 501
- iii. *Social attitude*: language use revealing attitudinal semantics - use of neuter pronouns even when human and non-human nouns are conjoined. This is really due to the fact that these nouns are considered non-respectable by the speakers. S. 534

Additionally, certain aspects of literary language are described mostly in the second section and one aspect, in the first section.

Phonetics: The description of occurrence of the elongated vowels in the case of metrical exigency (S. 6 & 41) found in the first section belongs to phonetics of poetry. In the second section, the special phonological forms commonly called *ceyyuḷ vika:ram* 'change of the forms in poetry' (S. 886) belong really to phonetics because they have something to do with *totai* and prosody.

Lexicon: In the second section, the descriptions of types of words used in literary language (*ceyyuḷ i:ttac col* 'words to be used in composition') is the study of words based on social attitude (standard dialect, regional dialect) and history (loan words) (Ss. 880-5).

Syntax: *poruḷko:ḷ* which deals with the change of word order in poetry. Ss. 887-92 and the three other concepts found in the second section, viz. (i.) the relation between the author and his/her text through the term *terintu molic ceyti* 'creation of selective words' (S. 564.5), (ii.) linguistic correlation between form and meaning in *iraicci* (S. 681).

In the first three chapters of the third section, the descriptions of *uḷḷurai* and *iraicci* belongs to semantics and communicative theory and the description of special usage in *poruḷiyal*, to the sociolinguistic point of view. The last chapter deals with collocational relations of some of the semantic fields like names of youths, male and female names. The chapter on prosody contains the following linguistic features:

Lexicon	<i>marapu</i>
Phonetics	<i>tu:kku</i> , <i>totai</i> (except <i>muraṇ</i>), <i>vaṇṇam</i> (some kinds)
Semantics	<i>eccam</i> , two <i>vaṇṇam</i> -s (<i>akappa:ttu vaṇṇam</i> and <i>purappa:ttu vaṇṇam</i>)
Syntax	<i>ma:ttu</i> 'linkage'

So, *Tolkāppiyam* deals with literary language from all aspects of Linguistics.

Literature is basically a language medium and so, the study of all aspects of a language, viz. phonetic, phonemic, morphological, morphophonemic, syntactic and semantic systems are basic and essential to

understand the language of literature. But in addition, some special linguistic features of literary language could also be studied linguistically in the wider sense of descriptive Linguistics, historical-comparative grammar, dialectology, sociolinguistics, lexicology and discourse analysis. In descriptive Linguistics, special aspects of literary language could be treated under four major systems: phonetics, lexicology, syntax and semantics. So, in the study of Linguistics of literary language, all the information found in the three sections should be collected and integrated to understand our heritage of literary theories from the linguistic point of view.

There are some differences between the point of view of structure, i.e. formal level and literature or functional level. For instance, the *ceyyul vika:ram* is purely the variation in forms of the word but it has something to do with phonetics, especially alliteration and also prosody.

Tolkāppiyam has included more than one level in the description of the poetic elements. For instance, in the descriptions of *totai*, phonology, lexicology and semantics are involved. For instance, the inclusion of *muraṇ* 'paradox' as one of the *totai*-s involves the lexemes. Similarly, in the description of *vaṇṇam*, phonology (classes of sounds, rhythm) prosody and discourse semantics are taken into consideration. It should be noted that *Tolkāppiyam* has only described the poetic elements in terms of the identification and their classifications and not their functions, i.e. how they contribute to the total meaning of poetry.

Here, an attempt is made to study *Tolkāppiyar's* (the author of *Tolkāppiyam*) concept of Linguistics underlying his observation of special features of literary language and literary features. Before that, one basic observation found in the casual syntax should be noted.

Relation between Text and Author

Modern literary theoreticians have argued about the relation between the text and author, whether it is intimate or casual. *Tolkāppiyar* has noted only two possible relations but has not specified them, but the commentators differ among themselves, when they specify them.

Tolkāppiyar has recognized two kinds of relationships between the possessor and the possessed in the sixth i.e. possessive case, viz. alienable and inalienable in one sutra (S. 563), and in the next sutra listed the co-occurring nouns in terms of semantic classes. Among the various types of nouns co-occurring with the possessive case, *terintu molī ceyti* is one for

which all the commentators give illustration *kapilaratu pa:ttu* 'poems of Kapilar', a Tamil poet. Cenavaraiyar interprets the phrase as *terintu moliya:rcēyappatuvatu* 'one which is created by selective words' and it has the alienable relation of an object (*poruṭ piritin kilamai*) which means the text and the author are different. That is, what is said in the text may not correlate with the author's life. Naccinarkkiniyar interprets the phrase to mean both the creator and the theme having two different relations: *kapilaratu pa:ttu* 'poems of Kapilar' and *pa:riyatu pa:ttu* 'poems on *Pa:ri*', an ancient chieftain on whom Kapilar composed those poems and says that they have both the relations. Kallatar accepts the interpretation of Naccinarkkiniyar and explains *kapilaratu pa:ttu* like the relation between the paste and the object of the paste like sesame seed, i.e. one changing completely into another and so it is an inalienable relation. That is, the text is not different from the author; in other words, the text is the author and the author is the text. According to him, *Pa:riyatu pa:ttu* poems on *Pari* is alienable relation. Naccinarkkiniyar gives another illustration for alienable relation, *paraṇaratu pa:ttiyaḷ* 'poetics of Parānar'. Since it is a grammatical work, it cannot be called a creative work and so it is an alienable relation with the author. Here, the type of relation that one assumes has deeper philosophical implication.

Phonetics

Literature is composed of words which are, in turn, composed of sounds. It is basically social discourse. Here, literature is taken in the restricted sense of poetry, one of the canons of literature where euphonic sound effects are considered important. Poetry is called (*ka:taikal corivana*) *cevi nukar kaṇikal* 'fruits appealing to ear' by the greatest Tamil poet, Kamban (*Pa:la Ka:ṇṭam. Na:ttuppataḷam* 51). This means that poetry is euphonic pleasant to the reader as well as to the listener.

Literary language is mainly concerned with phonetics and not phonemics because it involves reading the poetry aloud. In any communicative act, whether prose or poetry, the pause or silence also plays a crucial part. Linguistically, a pause is called juncture and it functions as a phoneme in all the languages. *Tolkāppiyar* has also recognized juncture contrastive, i.e. phonemic. From the segmental part of phonetics, *Tolkāppiyar* has given some importance to the elongated vowels and consonants. Both elongated vowels and juncture are used in the versification of the poems in deciding the number of metrical units called *acai* in a foot called *ci:r*. Alliteration (*totai* in Tamil, Marr., 1985: 436) and rhythmic effects (*vaṇṇam*, Marr.,

1985: 434) in all the languages, which are nothing but recurrences of sounds in a particular way, are sequences of sounds from the point of view of phonetics.

Interestingly, *Tolkāppiyar* has included elongation of vowels under *totai* and *vaṇṇam* also. It is not known whether other languages are using this technique. So, under phonetics, four things, viz. elongated vowels, juncture, *totai* and *vaṇṇam* will be discussed.

Elongated Vowels

Tolkāppiyar first said that there is no sound in Tamil with three matras (S. 5) and then observed that the elongated vowels are formed by adding the (vowel) sounds necessary if lengthening is required (S. 6). From the lexical point of view, it is mentioned that the elongation is carried out only in the case of exigency (S. 41), i.e. for poetic rhythm. This means that they are used to fill up the gap in the metrical unit in the versification and by that, some sound effects as well as some implicatures are produced.

Phonetically, the elongated vowels are of the type $V_1:V_1$ (the long vowel and the corresponding short vowel) having three matras (long vowels having two matras and short vowel, one matra). But in poetry, one could have the type like this: $V_1:V_1 V_1$ (one long vowel and two or more corresponding short vowels). In general, the vowel, short or long, constitutes one syllable. But the extra long vowels may constitute a syllable according to the poetic exigency (S. 1274) especially to fill the metrical unit. This means that *Tolkāppiyar* has noted the overall sound effect of the poems and not the function of the individual extra long vowel.

It is to be pointed out in this connection that the commentators have noted that there are two types of elongated vowels, natural (*iyarkai*) and artificial (*ceyarkai*). Peraciriyar (S. 1274) has noted that the latter is to contribute to the meaning of the poems. For instance, the word *nacai* 'having desired' could be considered a natural one because *-i* is the past tense suffix and functions as two syllables *nacai-i* and *ce:ey* 'Muruga', the unnatural one because it is elongated for poetic exigency only and it functions as two syllables - *ce:* + *ey*.

As noted above, *Tolkāppiyar* has also set up *aḷapeṭai t totai* 'alliteration of elongated vowels'. Like other sounds, the elongated vowels are used to form *etukait totai* 'assonance'. But the peculiarity of *aḷapeṭait totai* is that

it occurs medially once or twice in a line or in more than one line in the whole poem and they cannot be brought under *etukai*.

ura:ark kuruno:y uraippa:y kaṭalai
cera:āy va:liya neñcu

(Kural. 1200)

‘Live, O my soul would you who relate your great sorrow to strangers, try rather to fill up your own sea (of sorrow)’

(Tr. Drew & Lazarus)

This could be considered to be elongated vowel of assonance at the line level (*aṭi etukait totai*). The elongated vowel in the word *ura:arkku* functions as separate metrical unit as *ura:* + *ark*. From the point of view of caesura, the first line is 3 + 1, i.e. the word having elongated vowel is part of first caesura. In *cera:āy*, there are three *acai*-s: *cera:* + *a* + *ay*, and the line has caesura as 1 + 2 which means the word having elongated vowel has a pause immediately after that. The first word, *ura:arkku* ‘to those who do not sympathize’ is a negative participial noun of *ura:ar*. It could be natural elongated vowel because the long vowel stands for negative suffix and the short vowel for part of the epicene plural (*-ar*). It is versified as having two metrical units, *ura:-ark*. So, the elongated vowel has no special meaning. From the phonetic point of view, it is plosive dominant rhythm and it may imply the anger of the lady-love. In the second line, *cera:āy* ‘do not fill up’ is the negative imperative finite verb. It is artificial elongated vowel because the long vowel stands for the negative suffix and the short vowel for the second person suffix (*-ay*). The extra lengthening, i.e. the additional short vowel is only poetic exigency. If it is *cera:ay*, it will be two metrical units - *cera:-ay* and in that case, the following word should have a word (C)VCV as per the grammar of *venpa:* meter. Since the following word has CV: type, the preceding word should have three metrical units. But the extra short vowel also implies the politeness or request not to get angry with the sea.

Even when the elongated vowels do not occur as the first word of a poem, i.e. the second or third word in the poem, pronunciation of the word contributes to euphonic quality and also some meaning.

nacaiperi tutaiyar nalkalum nalkuvar
pitipaci kaṭaiya peruṅkai ve:lam
mencinaṭi ya:am poliikkum
anpina to:liavar cenra va:re:

(Kurun. 37)

‘Those filled with love / bestow their love /, / my friend. / The path he follows / is full of love; / the male elephant peels off / tender branches of the *ya:m* tree / with his long trunk / to appease the hunger of his mate.

(Tr. Shanmugam Pillai & Ludden)

Here, the elongated vowels occur in the second (*kaḷaiya*) and third (*ya:am*) line medially. Both of them function to form separate *acai*. Linguistically, the former is natural elongated vowel because *-iya* is a verbal participle suffix denoting purpose while the latter is artificial elongated form because *ya:* is the base form. From the point of view of pause, the former precedes the pause for *acai* and caesura (2 + 2) and the latter has the pause and not caesura since the caesura pause 1 + 2. So, in *kaḷai + iya#*, the emphasis is on the purpose of the action. Hence, pause of the caesura after the elongated vowel. In *ya:am*, it serves only to fill up the metrical exigency.

In the following poem also, the elongated vowels occur medially in the middle three lines.

taccan_ ceyta ci_ruma: vaiyam
u:rttin_ pura:ar a:yinum kaiyin
i:rttin_ puru:um ilaiyo:r po:la
urrin_ pure:em a:yinum narre:r
poykai u:ran_ ke:nmai
ceytin_ purreneñ cerintana valaiye:

(Kur. 61)

‘The young child cannot mount / and enjoy his toy cart, / with its tiny horse, made / by his carpenter; / but how he delights / in putting it around / with his hand. / Like this / though we cannot delight / in being with our man, / from the village of fine chariots / with its public tank / just loving him gives us joy / our bangles are securely joined. /’

Here , the second, third and fourth lines have elongated vowels medially and all of them form separate *acai*. Linguistically, the same stem *in_puru* has three grammatical words, viz. *in_pura:ar* (negative epicene plural), *in_puru:um* (positive non-past relative participle) and *in_pure:em* (negative first person plural as honorific singular) and the elongation to fill up metrical exigency and *ci:r vakaiyuli* (because the words are split into two *ci:r*-s as *in_ + puru_*) in all the cases. Interestingly, the caesura of the three lines are formed differently, i.e. in alternative ways: 3 + 1, 2 + 2, 3 + 1 and they correlate grammatically because the second and the fourth lines are negative and the third, positive. The caesura after the elongation has positive

action signifying the slow action and the enjoyment of it for a long time while the second and fourth ones emphasize the negative aspect followed by concessive verbal participle, *a:yinum* 'even if becomes', which implies compromising attitude. Interestingly, the same verb occurs in the last line with positive meaning without elongated vowel (*in*) *purrunem* positive first person plural as honorific singular. The contrast between the two positive forms correlates with another dimension, i.e. the elongated form is found with the object of comparison who are youngsters while non-elongated form, with the subject of the comparison who is the heroine. Naturally, the heroine is shy to proclaim her happiness.

marā:a malarotu vira:ay para:am
aṇaṅkūtai nakar (in maṇanta pu:vin) (Akana:nu:ru. 99. 8-9)

'Having mixed the flowers of Maravam tree, temple (*nakar*) having terror God of worshipping (*para:am*).'

This is a case of elongated vowels having rhythmic effect (*alapeṭai vanṇam*). The three words of elongated vowels, *ma:ra:a(m)*, *vira:ay* and *para:am* are modified forms from *maravam* 'a tree', *viravi* 'having mixed' and *paravum* 'one who worships', respectively. So, they could be considered to be artificial elongated vowels and the short vowel of elongated vowels form one metrical unit which means poetically significant. From the phonetic point of view, in the first line, there are two caesura, 3 + 1, and they represent semantically the slow motion and soft nature. This is a part of the conversation of the hero with the heroine during the elopement. Here, the hero explains not only the beauty of the forest but also good fragrance of various flowers found mixed in the forest through which they are walking and fragrance of the flowers found in the temple of worshipping God. Here, elongated vowels represent three different things. The first one is a noun (*marā:a*) which represents one kind of tree, the second is verbal participle (*vira:ay*) which represents the verbs of other kinds of flowers mentioned in the previous lines and the third is *para:am*, the relative participle qualifying following the word in the next line. So, the use of the three elongated vowels in this line connects this line with the preceding lines and the succeeding line. It is to be noted that the elongated vowels occur individually in the preceding lines and not in the succeeding lines. This means that the spreading out of the fragrance, various types is expressed by phonetic symbolism.

Juncture

Tolkāppiyar has noted that the same sequences of sounds could mean different things due to the change of music or intonation (S. 141).

Here, all the commentators give the illustrations for the juncture only. *cemponpatintoti* can be segmented either as *cempu* + *onpatin toti* 'nine *toti* (a weight) of copper' or as *cempon* + *patin toti* 'ten *toti* of copper metal'. But, it is clear that the juncture is phonemic. There may be various kinds of pauses in the spoken language. They will reflect in the recognition of syllables, words and utterances. In the same way, pause is significant to analyse the metrical unit (*acai*), foot (*ci:r*) caesura and line pause, but duration of pause may differ from *acai* to *ati* 'line' (S. 1268).

Tolkāppiyar has noted that two short vowels are same as one long vowel (S. 50), i.e. *nakar* 'town-temple' same as *na:r* 'fibre'. This concept is useful to understand why both are considered to be one metrical unit in poetry. Moreover, he also noted the way of a word having three short syllables like *pakavan* 'god' (S. 1264 has to be analysed as having two poetic syllables, the first poetic syllable consisting of first two short syllables and the second one, last syllable, as *paka-van* and not as **pa-kavan*.

Another point with regard to metrical unit is that a word occurs as separate foot in one place and part of a foot in another place.

iniyai peruma emakke: ma:rratan
tunnarum kata:am po:la
inna:y perumanin onna:to:rkke

(*Purana:nu:ru* 94. 3-5)

'Oh king! You are good to us. But to your enemies, you are not good like rutting elephant with must.'

Here, the word *peruma* in the former is one foot and in the latter a part of a foot. This means the former is analysed as *peru -ma* while the latter as *peru -manin*. This means it occupies less space phonetically. Semantically, it is connected with the enemies while the former is considered with the friends. It is a vocative term. So, it is the fact that the friend is more courageous to address the king while the enemy hesitates to address him directly. In *Tirukkural*, the same word functions as one foot in one place and as part of the foot in another place. For instance, *itukkan* 'suffering' in one Kural as one *ci:r* (621) and in another Kural as a part of the *ci:r* (*itukkan:la* - 1030) (for more details, see Shanmugam 2002: 219). Similarly, the formation of caesura within a line either at the second or third *ci:r* depends upon the syntax and semantics. As for the line juncture, it usually falls with the end of the phrase, utterance, clause or sentence but in a few cases, falls after the addition of a word to the phrase or utterance.

ulla:r kollo: to:li killai

valaiva:yk konṭa ve:ppa onṭalam

putuna:n nulaipa:n nutima:n vallukir

(Kur. 67. 1-2)

‘Will he not see how the neem fruit in the beak of a parrot looks like a gold coin in between the two nails of goldsmith?’

Here, the first line is predicate phrase + vocative + noun of the following phrase (*valai va:y* ‘crooked mouth’). It is not correlated with the syntactical unit. This is called *tu:kku* by Peraciriyar (Shanmugam 1998: 223f.). The line pause of the next two lines correlates with syntactical units. The line pause in the first line is responsible due to the word *killai* ‘parrot’ which symbolizes heroine, and neem fruit in the second symbolizes the season of his return. In that line, caesura is after the third *ci:r*. *killai* has phonetically become significant.

Totai

The recurrence of sounds in a *ci:r* ‘foot’ either syntagmatically or paradigmatically is called *totai*. Even though *totai* is translated as alliteration, *Tolkāppiyar*’s concept is more complex because he has included under *totai* not only the recurrence of various types of sounds but also repetition of words called *irattai* ‘two occurrences of the same word’ and paradoxes.

Totai within the same word at the syntagmatic level is of three types: *mo:nai* ‘the recurrences of the same sounds in the initial syllable which can be the alliteration’, *etukai* ‘the recurrences of the same sounds in the second syllable which can be called assonance’ and *iyaipu* ‘the recurrences of the final syllable or sound especially in the end of a line called rhyme. At the syntagmatic level, across *ci:r*-s, these recurrences are of two types: viz. *polippu* recurrence in the alternative *ci:r*, and *oru:u*, in the first and last *ci:r*. The three types of recurrence could occur at both the levels and so, one could have *polippu mo:nai / etukai / iyaipu* and *oru:u mo:nai / etukai / iyaipu*. At the paradigmatic level, especially at the level of lines, one has those three types, then they are called *aṭi mo:nai / etukai / iyaipu* ‘alliteration / assonance / rhythm at the level of line’. The commentators have pointed out that the two lines are minimum unit for the formation of *totai*. This is only for the paradigmatic level.

It is to be noted that the alliteration is not natural to language and it is usually created by the selection of rhythmic words. This is true in the case of poetic language also. For example, Valluvar has selected the word *teyvam*

to denote God even though there are many words like *iraivan*, *a:tipakavan*, *va:larivan* because the first word in the first line is *vaiyam* 'world'.

vaiyattul va:lva:nku va:lpavan va:nuraiyum
teyvattul vaikkap paṭum

(Kural. 50)

'He who on earth has lived in the conjugal state as he should live, will be placed among the Gods who dwell in heaven.'

(Tr. Drew & Lazarus)

In poetry, the syntactical transformation is also responsible for the creation of alliteration. For instance:

orutta:rai onra:ka vaiya:re: vaippar
porutta:rai ponpo:l potintu

(Kural. 155)

'The wise will not at all esteem the resentful. They will esteem the patients even as the gold which they lay up with care'

(Tr. Drew & Lazarus)

Here, there is initial assonance between two lines of the poem. This is achieved only through transformation especially fronting transformation. Here, there are two sentences and the first sentence is the type : Object + Adverb + Predicate, while the second sentence is the type Predicate + Object + Adverb. Tamil language is basically SOV type. So, the fronting transformation of the predicate (verb) in the second sentence (O Adv.P → P O Adv.) is responsible for the occurrence of the alliteration.

In some cases, it is achieved by the splitting of a word into two units. In *Tiruva:cakam* (19), a work of medieval devotional poetry, the word *ku:tta:ttuvana:ki* 'one who makes others to dance (lit.)' is split into *ku:tta:ttu* + *va:na:ki* because the first word of the other lines are *va:na:ki* 'having become sky', *u:na:ki* 'having become flesh' and *ko:na:ki* 'having become king'. So, in poetry, the alliteration is achieved by various means.

In Old Tamil, *totai* is not an obligatory one, so *Tolkāppiyar* has recognized *centotai* 'the absence of alliteration / assonance' as a separate category. In many cases, there are many instances where the *totai* is found only in the consecutive two or three lines anywhere in the poetry and those two or three lines are somewhat thematically connected. In the following poem, the last two lines have line assonance. In *Kuruntokai* 224, out of six

lines, the last two lines have line assonance. In *Kuruntokai* 289, out of 8 lines, the middle three lines (three to five lines) have line assonance.

Two types of alliteration across syntagmatical level, *polippu*, *oru:u* imply the recognition of caesura. Recently, Kothandaraman (1992) has called it *pinai*, especially in the line having more than six foot. Now, it is extended to the line having four foot also (Shanmugam 1998: 282f.). Here also, the caesura in all the cases do not coincide with these *totai*-s (Shanmugam 2000: 174f.).

Another important *totai* recognized by *Tolkāppiyar* is *muraṇ* (lit. contradictory) which is interpreted as paradox, from the lexico-semantic point of view. *Tolkāppiyar* has noted two kinds of paradoxes, *molī* 'word' and *poruḷ* 'meaning' (S. 1352). The commentators give different types of illustrations.

Muraṇ means linguistically the clear contrast within two words in a semantic field. For instance, in the field of colour terms, black and white, black and red are considered contrasting colours while yellow and green are not. The antonyms like *akam* 'outside', *puram* 'inside' and the grammatically positive and negative forms of the verbs as well as nouns are considered to be paradoxes. The study of paradox in poetry has enormous scope especially at the semantic level because the poets use them in many ways. For instance:

ceyarkariya ceyvar periyar cīriyar
ceyarkariya ceykala: ta:r

(Kural. 26)

'The great will do those things which are difficult to do, the mean cannot do those things which are difficult to do.'

(Tr. Drew & Lazarus)

There are two sentences and *periyar* 'great person' and *cīriyar* 'the mean person' occur as predicate of the two sentences and they are in paradox. The subjects, *ceyvar* 'those who will do' and *ceykala:ta:r* 'those who do not do' are positive and negative forms respectively and so they are in paradox.

When there is more than one paradox in a poem, one or two will be in paradoxes linguistically, and others could not be considered paradoxes but only poetically and they should be interpreted using some semantic concepts to justify them as paradoxes.

*nallinattin u:nku tunaiyillai tiyinattin
allar patupp atu:um il*

(Kural. 460)

‘There is no greater help than the company of the good; there is no greater source of sorrow than the company of the wicked.’

(Tr. Drew & Lazarus)

Here, *nallinam* ‘good company’ and *tiyinam* ‘bad company’ are paradoxes. But *tunai* ‘help mate’ and *allar patuppattu* ‘that which gives sorrow’ may not be considered paradoxes. *Allarpatuppattu* ‘that which gives sorrow’ could definitely mean ‘enemy’ and so, *tunai* could be interpreted as ‘good friend’ because ‘help mate’ would mean a ‘good friend’. In the latter, the feature, the agent, is added so that they could become paradoxes. The reason may be to have alliteration with the first line. In this way, what are not *muran* at the surface level could be interpreted so, using some semantic concepts (for more details, see Shanmugam 2000: 184f.).

By positing common semantic features, one could explain certain words which are not semantically related. This is nothing but extension of the concept of *muran* to semantics of poetic language. It could be extended to the intra-textual study and inter-textual study which could add new dimension to the semantic study as well as the discourse analysis.

Vaṇṇam

The recurrence of a class of sounds like stops, nasal or short vowel or long vowel in a line, is called *vaṇṇam*. *Vaṇṇam* is generally defined as the difference in the rhythmic effect. But the study of *vaṇṇam* by Tolkappiyar seems to be complex because he has given the list of 20 *vaṇṇam*-s which include not only difference in the sound types like plosives, nasals, short vowel, long vowel but also in the rhythmic pattern like fluent rhythm, broken rhythm, fast rhythm and in the prosodic units like *oru:u vaṇṇam*, *ta:a (polippu) vaṇṇam*. Really the groupings of 20 *vaṇṇam*-s and naming them by different scholars are not uniform. Even though Ilampuranar, the first commentator has attempted to group them into the three major classes, he has not succeeded because he has followed the tradition of later grammarians which is different from *Tolkāppiyam*. Any how, naming the groups, by a common term is also important and then only one could say that the rhythmic effects are due to the combination of three or more major features. But grouping them into three and defining rhythmic effects as the combination of three or more groups are theoretically significant. That is,

20 *vanṇam*-s are not distinctive of rhythmic effects, but combination of some major groups only produces some rhythmic effects.

It seems that one could recognize five major groups: i. one group of *vanṇam*-s based on classes of sounds which includes four *vanṇam*-s for consonants (stops, nasals, intermediary and fricatives for *a:ytam*) and four *vanṇam*-s for vowels (short vowels, long vowels, combinations of short and long vowels, and elongated vowels); ii. a group based on prosody which includes three *vanṇam*-s (*corci:raṭi pa:a vanṇam* 'single *ci:r* forming one line', assonance (*etukai* or *ta:a vanṇam*)) and *oru:u*; iii. a group based on rhythmic patterns which include five *vanṇam*-s (*oluku* 'fluent', *akaippu* 'broken', *tu:nkal* 'swinging', *uruttu* 'rolling', *mutuku* 'rapid movement'); iv. a group based on lexicon which includes two *vanṇam*-s (conjunctives or enumeratives and iteratives) and v. a group based on discourse types which includes two *vanṇam*-s (*akappa:ttu* 'one which seems to be incomplete but really completed' and *purappa:ttu* 'one which seems to be completed but really incomplete'). Definitely, the first three classes only are based on phonetics. And they would be necessary to produce the rhythmic effect. It seems that many of the *vanṇam*-s are not correctly identified and explained. More study is necessary in the case of *vanṇam*.

One thing is to be noted with special reference to the rhythmic effects on the basis of classes of sounds. It is popularly recognized that certain class of sounds seem to correlate with certain human feelings. For instance, plosive rhythm seems to evoke hardness or angry feelings, the nasal rhythm, the softness. Similarly, certain rhythmic patterns are considered to be onomatopoeic in nature. The correlation of rhythmic pattern with certain human emotion or certain onomatopoeia in nature is not universal but language-specific or may be accidental (Neethivanan 2001: 59). Even within a language, the correlation may not be the same and so it is not universal within a language. But one cannot deny the fact that in certain poems, there is a correlation between certain rhythmic patterns with certain human emotion. So, one has to conclude that the correlation may not be due simply to sound pattern but also due to rhythmic pattern and other factors like prosody.

Lexicon

The basic component of literature is word. In any literature, the selection of words is considered to be important as the popular definition goes that literature is nothing but the best words in the best order. Linguistically,

it means selection of lexicon and syntax. From the point of view of lexicon, it is concerned with the selection among the synonyms and also selection from different varieties of the language. The selection of synonyms is a part of the semantics and other selection is based on the knowledge of the varieties in the language. Here, all the Tamil grammarians have classified the words into four categories. *Tolkāppiyam*, being the grammar of the language and literature, has described them in the second section (880-5) and included as one of the components of poetry called *marapu* (S. 1259 & 1337) in the third section.

Tolkāppiyar has recognized four varieties and called them *ceyyul i:ttaccol* 'words of (poetic) composition'. They are *iyarcol* 'standard dialect', *ticaiccol* 'regional dialect', *tiricol* 'changed forms' and *vaṭacol* 'northern words' or loan words in general. There is academic dispute about the identification of these concepts (Shanmugam, 1996). For instance, *Tolkāppiyar* has defined *iyarcol* as the words without change of meaning associated with the usage of *centamiḷ* land. Here, the problem is what is meant by the usage of *centamiḷ* land, whether it is the part of standard dialect area, the difference of opinion exists about the exact area, whether central region (part of Chola country) or southern region (Pandya region) is the standard dialect area. Since this is the linguistic definition, the problem is to identify the standard dialect area. It is generally believed that the speech of the dominant social group living in the part of the region which is politically, economically and culturally dominant over other regions could be considered a standard dialect. That is, the speech habit of the dominant could be imitated by other groups in the same region as well as in the other regions.

Ticaiccol is regional dialect and *Tolkāppiyar* has simply mentioned 12 regions surrounded by *Centamiḷ* land without listing the 12 regions. The commentators have given one or two examples to identify the regional dialects which are also doubtful.

Tiricol is defined by *Tolkāppiyar* as words of homonyms and synonyms. On the basis, one word among the synonymous words is taken as basic and others as changed ones. This seems to be funny and so Cenavaraiyar has interpreted it as *kattiya valakku* which could be taken as technical terms.

Vaṭacol literarily means northern words which are generally taken to be words of Sanskrit, Prakrit and Pali which are spoken in the north of

Tamil Nadu. In addition, there are two more varieties to be recognized in *Tolkāppiyam*.

Tolkāppiyar has noted certain social restrictions in the use of synonymous words, *i:*, *ta:* and *koṭu* meaning 'give'. When an inferior person wants to get something from his superiors, he should use *i:*; in the same way, when the superior wants to get something from the inferior, he should use *koṭu*, and among the equals, *ta:* should be used. They can be called social dialects. In the use of the so-called honorific singular, the social hierarchy is involved. Even though *Tolkāppiyar* has noted that the use of honorifics is not poetic usage but only colloquial usage, it is commonly found in the Sangam literature.

The historical-comparative study of words of poetic usages noted in the first two sections such as *-a:*-ending words becoming *-avu* in poetry (S. 234) reveal that some of them are historically older words which can be called archaic dialect. In two such instances, *Tolkāppiyar* himself used the phrases, *tonriyal marunkin ceyyul* (S. 237) and *tolliyal marunkin mari:iya marapu* (S. 355); both of them mean very old usage. In the study of medieval poems like *Tiruva:cakam* and modern poems like Subramanya Bharathiyar songs, the concept of archaic dialect is found useful when one studies the poetic language (Shanmugam, 2000).

The next problem is to find out how these classifications are useful in the literary languages and how to find out the connotations, if any, in the literary study. To understand this, it is necessary to know the real socio-cultural meanings of these terms.

Language spoken in a wider area by persons carrying out different types of occupation may or may not have close network of communication. Hence, as time passes by, many social and regional varieties emerge. But one among them may be considered to be model for other groups due to cultural and political dominance of that group and that dialect is called standard dialect. For any person, to start with, his or her own social or regional dialect would be familiar and the standard dialect would be known through education only and so the influence of one's social or regional dialect in the speech as well as in the writing is unavoidable. The poets could use the social dialects to identify the characters.

The standard dialect may change from period to period. Hence, the difference in the literary languages may be either due to change of the standard dialect or historical change. For instance, in Old Tamil, the second

person plural pronoun is *ni:yir* or its alternant form *ni:r* which may be due to regional or social dialect. But in Middle Tamil texts, the form *ni:nkaḷ* is also found. This is not due to historical change but due to the change in the standard dialect which was Southern or Pandya dialect in OT period and Central or Chola region in MT period.

When one studies the language of a literature written in the standard dialect, one could come across regional or social dialect of the author. Sometimes, the social class of the characters is noted by the occasional use of his/her social dialect.

When the speech community comes into contact with other language speakers either due to political or cultural dominance, the words from that language (loan words) might be adapted due to need-filling motive or prestige motive both in the spoken and written language. So the loan words recorded in the literary texts could reveal the socio-cultural and political history of the speech community.

Most of Tamil literature is in poetry written in standard dialect only. In Old Tamil, Southern dialect was considered the standard dialect. Only in *Pallu* or *Kuravañci* genre, regional and social dialects are more commonly found. But in modern times, especially in novel literature, regional and social dialects are used predominantly and the whole text is written sometime in a dialect.

Even though poets of all parts of Tamil Nadu have written poems in Old Tamil period, we are not in a position to identify the regional dialects in Old Tamil literature except in one or two cases. The use of the non-past-tense suffix *-m-* instead of the standard form *-p-* is found in one poem (*i:nmar* for standard form, *i:npar* 'they will give birth') recorded by Chera King (*Purana:nu:ru* 74).

In the post-Sangam period, Tiruvalluvar is considered to have hailed from the southern-most part (Nancil Nadu) of Tamil Nadu. Even though Padmanabhan (1970 onwards) is furnishing evidence for this, from linguistic and historical evidences, the comparative study of his linguistic evidences show that there are only two or three lexical items, like *vellam* 'water instead of flood' (595), *aṅkanam* 'courtyard' (720) for *munril*, *oppuravu* 'help others' (213) for *utavi* which may be considered Nancil Nadu dialect (for details and comments, see Shanmugam 2002b: 88-93).

Language reflects not only the culture of the speech community but also some social differences either lexically or grammatically. As noted above, *Tolkāppiyar* has shown the social hierarchy from the use of lexicon. Another way of knowing the social difference is by the use of plural which is called honorific singular to refer to singular.

celva:r allarenru ya:n ika^lntanane:

olva:ḷ allalenru avarikaln tanare:

(Kur. 43. 1-2)

‘I (heroine) wrongly thought he (hon.) will not leave while he (hon.) wrongly thought she would never agree.’

Here, the heroine uses the honorific singular to refer to the hero both in the finite verb forms (-ar), pronoun form (avar) and singular (ya:n ‘I’) to refer to herself while the hero uses feminine singular suffix only (-al) to refer to the heroine. This is nothing but the reflection of the superiority of the hero to the heroine. But it is not always true. In some poems, the heroine and the hero use either singular or honorific forms mutually. Sometimes, the same heroine who uses honorific singular may use singular form when she is angry with him.

It should be noted that the literary theory of *Tolkāppiyar* is based on *tiṇai* which means both the geographical regions like forest, hilly, fertile, littoral and desert and stages of love like union, separation, endurance, pining and sulking. He has also noted about the types of heroes of the love poems on the basis of the regions and social hierarchy (Ss. 969-79). So Naccinarkkiniyar (968) has attempted to find out the social classes of the heroes from Sangam poems on the basis of certain social customs and manners.

An attempt was made to study the sociolinguistic variables like age (young vs. old, mother vs. daughter), sex (male vs. female), wealth (poor vs. rich) found in Sangam poems (Shanmugam, 2004b).

In *Cilappatika:ram*, the social dialect, especially Brahmin dialect, is recorded. One of the characters, *Ma:talān* who is considered to be a Brahmin because he is called as *na:nmarai murriya nalampurik kolkai ma: marai mutalvan* ‘expert of four Vedas and man of high character’ is addressing *Ko:valān*, the hero of the epic, as *Ko:pa:la* (15. 94). But the normal vocative form will be *Ko:vala* only. *Ko:pa:la* could be considered as the Sanskritized form and it represents the Brahmin dialect.

The study of loan words in the literary texts reveal some principle of their functions. So far, three reasons have been found out.

- i. It is used for the purpose of alliteration. In *anti yantanar arunkatan inukkum* 'Brahmins are doing evening religious obligations' (Purana:nu:ru 2. 22). *anti* 'evening' is a loan word which was used to have *polippu mo:nai* (alliteration between first and third words). Here, the selection of Sanskrit word is responsible for the alliteration.

e:ma muracam

ne:mi yuytta

(Purana:nu:ru 3. 2-3)

'Protective drum wheel which was sent.'

Here, *ne:mi* 'wheel' is a Sanskrit word used to be with *e:mam* 'protection' and this is an instance of *aṭi etukai* 'assonance at the line level'. Similarly, in the following Kural (19):

ta:namtavam

va:nam

The Sanskrit word *ta:nam* 'gift' is used to have assonance with *va:nam* 'rain'.

- ii. The loan words are used to avoid repetition of the same word. In one instance, both *kaliru*, the native, and *kuñcaram*, the loan word for 'elephant' are found in the same poem, the native word in the earlier part (line 5) and the loan word in the later part (line 11). This means the loan word is used to avoid the repetition or monotony. Similarly, in *Paṭṭinappa:lai*, *koṭi* (native) and *pata:kai* (loan) 'flag' are used for the same purpose. Here, the native word is found the first four times and the loan word, lastly.
- iii. Another reason is connected with thematic situation. If there is puranic situation, Sanskrit words are preferred. The Sanskrit word *aṅki* 'fire' (equivalent Tamil words, *ti:* and *neruppu*) is used in the context of religious sacrifice, *avircaṭai antaṇar a:ṅki ve:ṭkum* 'Brahmins with beard doing sacrificial fire' (*Paṭṭinappa:lai* 54). It is interesting to note that the same poet, Paranaṇar, uses a loan creation in the context of political situations and a loan word in the context of mythology, to refer to Himalaya. *imayam* 'Himalaya' is a loan word used in the context of mythology: *ponpaṭu netuṅko:ttu imayattu ucci va:nara makalirkku*

me:val a:kum (Narrinai 356. 3) 'to the celestial girls living in the top of the golden peak of Himalaya'. But in the context of political conflict between Tamil Kings and Aryan Kings, loan creation is preferred: *a:riyar alurat ta:kkip pe:riccai tonru mutir vaṭavarai va:ṇku vil porittu* (Akana:nu:ru 396. 16-7) 'having attacked the Aryans and having inscribed bow at the top of north mountain which is very old and famous'. Since this is something to do with the heroism of the Tamil kings, Himalaya is referred to as *tonru mutir vaṭa varai* 'very old north mountain' and it is a case of loan creation (Shanmugam, 1989).

As for the use of archaic dialect in Old Tamil, the use of the suffix *-icin* (*ayamticin* 'did I') instead of more common suffixes like *en* or *an* for the first person singular, may be an instance of archaic dialect. It is found in a poem of Auvaiya:r.

vellivi:tiyaip po:la nanrum
celavayarnta ticina:l ya:ne:

(Akana:nu:ru: 147. 9-10)

Since the heroine is comparing herself with another historical lady personage, *Vellivi:ti* who went in search of her husband, the archaic suffix might have been used here. In the medieval and modern poems, the use of archaic words seems to have implied meaning (Shanmugam, 2000).

Syntax

Any utterance is basically a combination of words with appropriate sound sequences and so syntax is involved in the human interaction. Literature is an artful combination of words, i.e. a creation. The syntactical study is important not only from the lexical point of view but also from sound sequences. But the syntactical study became popular only during the later half of the last century because of lack of the development of adequate theory.

In the literary language, the author does not employ all the words necessary for the correct understanding and there will be lexical gap as well as semantic gap (absence of phrases and sentences) in the text. The reader has to supply them for correct understanding. This has been noted by the commentators *varuvittal* 'bringing' and *ava:y nilai* 'wanting of a word to complete', etc. This is possible due to the grammatical and semantic nature of words and sentences. Those techniques could be explained easily by the syntactic theory.

It is true that for any action to take place, the verb, object, instrument, time and place are necessary. This is noted by *Tolkāppiyar* as *tolil mutal nilai* 'arguments of the verb' which are eight in number (S. 596). On this basis, the verbs could be classified; the classification of transitives and intransitives of the verbs on the basis of taking objects (*paṭi* 'study', *a:l* 'rule', etc.) or not (*naṭa* 'walk', *o:tu* 'run') is well-known. So, the transitives are called two-place predicates, taking agent and object. Similarly, the verbs of giving, sending, etc. (in Tamil *koṭu*, *ta:* 'give', *anuppu* 'send') are three place predicates (agent, object, goal). In this way, all the verbs of a language could be classified on the basis of the number of arguments they take. It is also true that in ordinary communication as well as literary discourse, all the arguments of the verbs are not specified due to various reasons like linguistic knowledge and world knowledge. This is called deletion. But in poetry, prosody is one of the reasons for the deletion. The study of syntax could be helpful to know the deletion in detail as well as transformations.

Tolkāppiyar has discussed the poetic syntax under the title *molipunaṛ iyalpu* 'nature of joining words' which is called *porulko:l* in the later period, in the second section in six sutras (887-92), where permutation of words, phrases and lines are recognized under four classes, viz. *niranirai* 'respective order', *cunṇam* 'change (of *ci:r*) within two lines of eight *ci:r*, *aṭimari* 'inter-change of poetic lines' and *molima:ru* 'change of words from front to back and back to front'. One important difference between this *porulko:l* and the modern transformation is that while the former takes the surface form as basic and changes it to suit the correct semantic interpretation or correct paraphrase of the poem, the latter sets up first the deep structure by studying the surface structure of the text and then explains how the poem is formed by transformations which include not only permutation but also deletion, insertion and substitution. By the application of transformation, one could easily understand how the poet has achieved the important poetic features like rhyme and parallelism, and maintained the requirement of the meter. So, the study of transformation is more useful than the study of *porulko:l*.

In Tamil tradition, only later grammarians have noted indirectly deletion. For instance, *ta:ppicai* 'swing method' according to which one word or phrase would swing to the front position and also to the back position, is nothing but one word or phrase serving as part of two phrases. Here, the deletion is involved.

ella: viḷakkum viḷakkalla ca:nro:rkku

poyya: viḷakke: viḷakku

(Kural. 299)

‘All lamps are not lamps; the lamp of truth is the lamp of the wise.’

(Tr. Drew & Lazarus)

This can be called a kind of *ta:ppicai*. Here, there are two sentences and the word *ca:nro:rkku* ‘to the wise’ is common to both.

As noted above, the deletion of some of the arguments of the verbs is very common in poetry where the deletion of the verb is also found. In Kural (10), *piravi perunkatal ni:ntuva:r*, there are two sentences where the subject is deleted in the first sentence and object, in the second sentence. In Kural (395), *utaiya:r mun e:kkarrum karra:r* ‘those who learned (are superior) are the destitute before wealthy’, predicate is deleted but is assumed on the basis of the other sentences in the same poem. They are due to metrical exigency.

Two basic concepts of modern syntactic analysis are known as Immediate Constituent analysis (shortly IC analysis) and the concept of transformation, according to which there are two structures, surface and deep structure, and the former is due to the result of the transformations called deletion, permutation, insertion and substitution. The rudiments of these new concepts were known in the east as well as in the west for a long time. IC analysis was known as parsing in earlier period in the Western world. Tamil grammar is no exception to this. Especially, *Tolkāppiyam* and its commentaries contain some rudimentary ideas about the above basic concepts (Shanmugam, 2004b).

The IC concept is found in *Tolkāppiyam*, in the description of the phrase containing colour term (*cem* ‘red’), terms of body part (*ka:l* ‘leg’) and whole (*na:rai* ‘crane’). *cenka:l na:rai* ‘red-legged crane’. Here, two different terms, *vanṇam* ‘colour’ and *aṭai* ‘attribute’ to refer to the same item by *Tolkāppiyar* implies IC analysis. The term, *vanṇam*, is based on lexicon from the point of view of the semantic field, and *aṭai* ‘attribute’ is based on syntax, from the point of view of privileges of occurrences (head or attribute) used in IC analysis (Hockett, 1958: 184). So, one can assume the colour term and the term for the body part forms one constituent and then joins with the term for whole.

cenka:l na:rai



It is interesting to note that the commentator, Cenavaraiyar, has noted the concept of IC in two places (Ss. 26 & 417). The phrase, *pe:ramarkkan pe:tai* 'lady with big loveable eyes' is interpreted by Cenavaraiyar as *pe:ramarkkan* as a compound joining with *pe:tai* in the sixth case relation (S. 28). This means that the phrase *pe:ramar* becomes one constituent by co-ordinate relation and joins with *kan* by attribute-head relation *pe:ramarkkan* and *pe:tai*, another constituent and they are in IC relation.



In another place, the phrase *karcunai kuvalai ital* 'petal of *kuvalai* at mountain spring' is explained as having phrases *karcunai*, *karcunai kuvalai* and then *kacunairkuvalaiital*, whereas the conjunctive compounds like *pulivirkentai* 'tiger (and) arrow (and) fish' is interpreted as having three constituents having same relation or multiple constituent structure, *mu:nru peyarum orunku tokkana*. *Pe:r* and *amar* have attribute relation with *kan* and they are co-ordinate constructions. Similarly, *pulivirkentai* is a clear case of co-ordinate construction.



This is an instance of multiple constituents because it is co-ordinate construction.

Teyvaccilaiyar has called it *pu:ntotai* 'knotting of garland' (S. 408) where two flowers are knotted and the first and third flower on the previous knot, and explained that the combination of compounds will be like this (Shanmugam, 2004b).

In the explanation of cases and compounds, both the concepts of deep structure and substitution are found. For example, casual compounds which are a combination of two words are like casual phrases (S. 896) and this can be replaced by one word or behave like one word. Certain case phrases are explained only in terms of deep structure. For instance, the third case is said to occur as the agent. *inta pa:ttu pa:ratiya:ral elutappattatu* - 'this poem composed by Bharatiyar' is an instance of the third case (-a:l) functioning as the agent but at the surface level, it is in the instrumental

case. At the deep level, *intap pa:ttai pa:ratiya:r elutiṇa:r* 'Bharatiyar composed this poem' is an agent because it is in the first case. To say the instrumental case functions as an agent, it is only in terms of deep structure. For instance, *pommaikku maṇ* 'soil to toll (Lit.)' is interpreted as *atu va:ku kilavi* phrase, *atu a:kum* means *maṇ pomma i a:kum* 'sand becomes toll'. *Tolkāppiyar* has noted the change of word order in poetry as *molima: rru* which is nothing but permutation. These imply the awareness of some kinds of transformations. Teyvaccilaiyar has used the term *moli ma:rru* (lit. change into another category. S. 90).

It is to be noted that the transformation in linguistics is concerned with only a single sentence, i.e. sentence is the operation unit in linguistics where in literary language, it may operate across sentences also. So, one can have only fronting of phrase in linguistics while one can have sentence fronting also in the poetic language. In a specific case, *Tolkāppiyar* has referred to the fronting of the sentence. He has first noted that the proper noun sentence and the anaphoric pronoun sentence occur in that order only. *Murukan vanta:n* 'Murugan came' and *avan pa:tina:n* 'he sang' (S. 521). This is the normal order, but in the case of poetry, the occurrence of the pronoun is admitted (S. 522). In *Kuruntokai* (5), one has this type of usage.

atukol to:li ka:ma no:ye:
vatikuruk urankum innilar punnai
uṭaitirait tivalai arumpun ti:ni:r
mellam pulampan pirintena
pallital unkan pa:tol la:ve:

'Is this love sickness / my friend? / my man from the sea coast / where the *punnai* tree blooms / in the mist of broken waves / and the heron sleeps in its shade / is gone; / and my eyes / like the many-petalled lotus / cannot sleep a wink.'

(Tr. Shanmugam Pillai & Ludden)

Here, the pronoun sentence occurs first and then proper noun sentences, i.e. order of the sentences has been changed. It can be said semantically the effect is explained first and then the reason for it. This is useful to create suspense in the mind of the readers so that they could be eager to know what the poet is going to say. This is one of the literary techniques usually found in other types of literature. Even within a sentence, this type of inversion is found.

The permutation in the phrase level is nothing but change of arguments like object, goal, location within a sentence. What is interesting is both the forms - transformed and non-transformed phrases - may be found in the same poem. For instance:

ennanri konra: rkkum uyvunṭa: m uyvillai
ceynn^unanri konra makarku

(Kural. 110)

‘He who has killed every virtue may yet escape; there is no escape for him who has killed a benefit.’

(Tr. Drew & Lazarus)

Here, there are two sentences - the first sentence is Obj. + Dat. + V. type and the second sentence is V. + Obj. + Dat. phrase type. So, one has to take one type as normal and another type as the deviant. Here, the first sentence is taken to be normal because Tamil is SOV type and in the second sentence, as variant. So, P (predicate) is permuted to the initial position to emphasize the result of the action. It is to be noted that all the Kural-s having two sentences do not have transformations. For instance:

maravarka ma: carra: r ke: ṇmai turavarka
tunpattul tu: ppaya: r natpu

(Kural. 106)

‘Forget not the benevolence of the blameless; forsake not the friendship of those who have been your staff in adversity.’

Here, both the sentences are Pre. + Obj. (genitive compound) type. So, in both the sentences, Obj. phrase is permuted before Predicate. So, the transformational analysis is useful to stylistic study also.

In some cases, the change of arguments in the same poem is found in different environments.

arrait tinkaḷ avveṇ ṇilavil
entaikum uṭaiye: m enkunrum pirar koḷa: r
irrait tinkaḷ ivveṇ ṇilavil
venreri muracin ve: ntar
kunrum koṇṭa: rem ya: mentaikum ilame:

(Purana: nu: ru 112)

This is a poem by the daughters of Pari after his death.

'That month that moonlight / Our father, we had / Our hill others
had not seized / This month this moonlight / Kings with victorious
drums / Have seized our hill / We have lost our father.'

(Tr. Prof. Marudanayakam)

Even though the poem seems to be simplistic at the surface, the linguistic study reveals the complexity at the deeper level.

The first line and the third line are locative phrases denoting the full-moon time and the new-moon time, and the second, fourth and fifth lines describe contrasting family situations, viz. wealthy state and poor state respectively. In describing the contrasting family situation, there are two contrasts: (i) in the number of lines, and (ii) in the arrangements of the arguments and one similarity, i.e. both have the two sentences out of which one is positive and the other negative.

Since the locative is commonly described in one line for each situation, one could now say the wealthy state is described in one line while the poor state, in two lines. As far as the order of the arguments is concerned, the order of the constituents in the wealthy state is Obj. + Positive Verb and Obj. + Sub. + Pre. + Neg. Verb which can be generalized as Obj. + (Sub.) + Verb whereas the order in the poor state, Sub. + Obj. + Verb, in both the sentences. Are the order of change and deletion of the subject in the former accidental or do they have implied meaning? Since the wealth is measured in terms of number of objects one possesses, the importance given to objects is revealed linguistically in two ways: (i) by placing the objective case first by fronting transformation, and (ii) by the deletion of one of the two subjects. That is, when object is given too much importance, the subject gets deleted. So, there is some kind of correlation between the psychology of the people and the linguistic pattern.

Really wealthy state means possession of the objects (the father and the hill) while the poor state means the loss of those objects. Then, how is it they have the same type of sentences? If one looks at the sentences semantically, one can see the contradiction: the negative means positive meaning in the former, i.e. the sentence. 'The others did not capture the hill' means only that the hill was with them and so, both are semantically positive. In the same way, the positive sentence in the later means semantically the negative, i.e. the sentence, 'The kings had captured the hill' means the loss of the hill to them and both are semantically negative. So, unity in the syntax of the surface level is only deceptive.

Syntactically, the study of poetry alone would be useful to stylistic study. In this context, the correlation between the sentence types or combination of sentence types and the expression of certain ideas could be more interesting and useful to know the modal meaning of the proposition. The combination of the impressive or optative sentence and conditional phrase are common in didactic Literature. Here, the combination positive optative sentence + Negative conditional phrase (Kural. 127, 210) or vice-versa, negative optative + positive conditional (Kural. 204, 205, 922) emphasizes the virtue and also implies the authorial command. The combination of one or two conditional and interrogative (Kural. 2, 420) implies the mild anger or contempt towards the person. So, the linguistic study of the sentence patterns could bring out many psychological, sociological and philosophical principles.

Conclusion

Semantics is the most important aspects of literary study. This has to be undertaken from lexical semantics and semantics of the whole poem. *Tolkāppiyar's* concepts of *eccam*, *ullurai* and *iraicci* are to be studied under semantics. This has not been undertaken for want of space and time. Generally, there is a vast scope for the study of the linguistic heritage of literary language and also for the application of linguistic principles to the study of the literary language¹.

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THE CHANGEABLE "IMAGE OF LANGUAGE" IN THE 20th CENTURY TRENDS OF THOUGHT*

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Abstract

This article deals with a comprehensive, state-of-the-art account of all the significant theories on Language obtained at the end of the 20th century. The various images of Language are neatly and succinctly described under seven heads: 1. Language as language of the individual, 2. Language as a member of a family of languages, 3. Language as a structure, 4. Language as a system, 5. Language as a type and characteristic, 6. The computer revolution and the computer approach to language, 7. Language as the space of thought and as the abode of the soul. At the same time, Prof. Stepanov also gives a historical account of these schools of thought, putting in perspective how these images of Language went on partially replacing the earlier ones.

As the title itself indicates, the discussion here is concerned with the evolution of views on language during the 20th century and, most important of all, with those new contours, which the image of language acquired towards the end of the century. The expression trends of thought need to be understood rather in a collective meaning: we are dealing with various sciences or, in any case, with various disciplines. Our attempt is to show that, during the 20th century, initially mainly under the aegis of Linguistics, a variety of definitions of language and, correspondingly, a variety of its images, went on replacing one another. This evolution can be linked - though it is not too strong a link - to the changes in the styles of scientific thinking, or, as some prefer to describe them, the paradigms. However, the evolution progressed in such a manner that each preceding definition was not completely thrown overboard by the one following: the latter included some of the features of the former. The definition (and image), with which we end the historical overview, is "Language as the abode of the soul". Although this definition is somewhat coloured in the hues of the existential philosophy

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and hermeneutics of the 20th century (the prototype of this expression belongs to Martin Heidegger), if one were nevertheless to examine it closely from the point of view of history of science, it includes in itself both language of the individual and language of the people as a kind of constant of national culture, and a lot more too, all of which is essential for a full understanding of the expression "abode of the soul".

But, if language is abode of the soul, it is natural that life of the soul goes on in it. And if one were not to isolate thought and logic from other areas of soul (but such inadmissible attempts too were made), one must concede that language is abode of logic, abode of knowledge and abode of philosophising. Actually, it is this very approach that we observe at the end of the 20th century - even if under different expressions - in cognitology (or cognitive science), in many trends in modern logic and in several trends in modern philosophy - for example, the Russian (*New Russian Realism*) or the French. Naturally, it is impossible to coherently put forth in the present article all these approaches. [In our next article, the course of exposition takes a sharp turn - we shall make a kind of vertical split in three directions and call the corresponding sections - somewhat conditionally - as follows: 1. Discourse, 2. The Category of Fact, and 3. The Concept of Cause and the Causality Principle. The first of these sections deals with discourse as language in language - as a means of expressing (and creating!) any possible (alternative) world. The third deals with a new aspect in understanding causality *vis-à-vis* its relation to language. While doing so, moreover, since the discourse under study happens to be 'the Soviet political discourse' of the 1960-s and the 1970-s, whereas causality is a general scientific principle, it is clear that both these new images of language have to do (conceding, of course, the shortcomings in our presentation) with all the understanding about language and about all sciences in our era - the end of the 20th century.

Various "images of language" in the 20th century

Language as language of the individual (1),

Language as a member of a family of languages (2),

Language as a structure (3),

Language as a system (4),

Language as a type and characteristic (5),

The computer revolution and the computer approach to language (6),

Language as the space of thought and as the abode of the soul (7)

It cannot be said that, by the end of the 20th century, as a result of arguments, controversies and polemics, a certain adequately unified idea

about language was not obtained. On the other hand, it was produced and it is widely, if not universally, accepted. It is summarised in the following words by A.E. Kibrik, author of the entry *Language*, in the Russian publication *Linguistic Encyclopaedic Dictionary* [LED 1990, 604]:

"The term 'Language' has at least two inter-connected meanings: 1) Language in general, language as a specific class of sign systems; 2) concrete, so-called ethnic or 'idioethnic' language - a certain really existing sign system that is used in a certain socium, at a certain time and in a certain space. Language in the first sense is an abstract idea of a singular human language, of a combination (hub) of the universal properties of all concrete languages. Concrete languages are the numerous realisations of Language in general."

It is further indicated that 'language in general' is a naturally-born semiotic (sign) system, 'having the property of social intendedness', i.e. existing primarily not for a single individual, but for the specific socium. Moreover, this sign system has restrictions imposed on it, which are connected with its functions and with the substance (speech sound) material used.

We shall see below (in the next article, while discussing Discourse) the peculiarities of this very definition itself, but, for the time being, it is imperative to say that it is sufficiently general and hence sufficient to work with. In any case, it can serve as the general background, on which to draw the various images of language, which were appearing and partially - but only partially! - replacing one another during the course of the 20th century.

1. Language as language of the individual

To a certain extent, such an understanding, which implies that only the language of the individual can be the singular genuine reality and the language in general happens to be an abstraction and even fiction, turns out to be a negation of the definition just cited. But the crux of the matter is that it evolved a lot earlier than the latter. Strictly speaking, Science, at least European Science (as we leave aside for the moment the earlier works of the American C.S. Peirce, which surpassed the works of their time), set foot into the 20th century with this thesis as its main platform. And at that time, this thesis fully corresponded to the general views of positivism.

With the expression carried in the heading, we would like not so much to isolate logic of science from its history, as to note a historical event

that actually took place. In fact, this understanding of language was formulated in 1880 in the first edition of Hermann Paul's book *Principles of history of language* (*Prinzipien der Sprachgeschichte*) and, apparently, was accepted by many, generally speaking, up to the beginning of the 1920-s (since the author's fifth and the last edition of this book was ready in 1920).

"The great turnaround, which took place in zoology in the new times owed its origin, to a considerable extent, to the discovery that only individuals can have real existence and that the types, families and classes are in practice merely generalisations and restrictions that are being established by human mind arbitrarily and in a multitude of ways, and that the typical and the individual differences differ from each other only in degree, but not in principle. This should be our starting point in examining dialectal differences too. We should concede, strictly speaking, that there are as many separate languages in the world, as there are individuals. When we combine the languages of a majority of individuals into one group and contrast them with the languages of the other individuals of the same group, we always get distracted from one set of differences and take into consideration another set. Here, there is every opportunity for arbitrariness to have a field day. One should not presuppose in advance that individual languages could be compulsorily grouped only under one system of classes. One should be prepared to face the prospect that, no matter how many groups would be established, a certain number of individuals would always be found, with respect to whom it would be difficult to decide, to which of two adjoining groups they belong. The same dilemma crops up especially sharply, if one were to attempt a merger of smaller groups into larger ones and their mutual demarcation. A sharp line of distinction can be drawn only in those cases, where the unity of communication is interrupted over a series of generations.

That is why, when there is talk of the disintegration of an earlier unified language into various dialects, such words singularly fail to express the real essence of the process. In actual fact, at any given moment, the given society of people has as many dialects, as there are individual speakers, and, at the same time, each of these dialects goes through its own historical development and is subjected to constant changes. Disintegration into dialects signals nothing but the outgrowing of individual differences beyond the specified frames" [Paul 1960, 58-59].

The quoted definition gives a very bright (but, of course, now absolutely unacceptable) image of language. However, for our topic, it is especially suitable, because it shows directly, without hiding anything, how the new understanding about language, which will be dealt with in the next section - language as a member of the related family of languages - straight away, as if literally, grows out of it.

2. Language as a member of a family of languages

The term family of languages is to be understood, in accordance with the entire theory of comparative-historical linguistics, as a group of languages, which developed from a certain base-language, or proto-language, in such a manner that the long-standing minimal meaningful elements of these languages (roots and affixes) are found in strictly defined and regular phonetic correspondences to the respective elements of the proto-language (their principal syntactic units too are in specific relationships, but of a different kind, viz. transformational).

(For the sake of methodical accuracy, it is essential to underline one important circumstance: "The comparative-historical method, - wrote A. Meyer in 1925, - makes it possible to establish regular correspondences between the initial source language and the languages that developed from it, but not among the various languages that continue the common language" [Meyer 1954, 32]. Meanwhile, it is sometimes assumed that the relationship of languages predicts direct regular correspondences among all the languages of a family in their synchronic existence, i.e. as if avoiding tracing back to the proto-language. That is how, i.e. inaccurately, the concept Language relationship takes shape in the *Linguistic Encyclopaedic Dictionary* mentioned above [1990, 418]. This very circumstance is responsible for many a difficulty in the formulation of regular correspondences of the so-called Nostratic languages.)

According to this view, every language is first and foremost a member of the language family, bound by regular historic inter-relations of sounds (and minimal meaningful units); it is this that sets up - simultaneously both internally and externally - its systemicity.

This concept of systemicity was already fraught with all the main principles of structuralism. Indeed, what, according to this understanding, constitutes regular sound correspondences? As early as in 1925 (the year, in which the well-known generalising work of A. Meyer, *The Comparative Method in Historical Linguistics* was produced), they were understood to be

algebraic expressions of arbitrary (yet regular) correspondence rules. What is it, if it is not a generalisation (though not yet recognised as such at that time) of the idea of *sonant coefficients*, enunciated by one of the founders of structuralism, Ferdinand de Saussure, in his famous *Memoirs* as early as in 1878? It is no mere chance that it was Meyer himself, who formulated the main idea of de Saussure's *A Course of General Linguistics* (while reviewing it), which was not formulated by its author: "Language is a system, where everything follows one after another" (*"La langue est un système où tout se tient"*).

3. Language as a structure

The possibility of generalisation, reaching up to the creation of an abstract idealised model of Language (a possibility that was not utilised by de Saussure), was very well realised and clearly formulated by his most faithful followers on this path - the Danish structuralists. BrØndal, having in mind ethnic customs [but the same thing applies in his conception of language too], wrote: "The aggregate of customs of any given people always shows a unique style. Customs form systems. I am convinced that these systems do not exist in unlimited numbers and that human societies, analogous to individual people, never create something absolutely new, but only put together certain combinations from the ideal set of possibilities, which can be quantified (emphasis ours - Yu.S.)" [BrØndal 1943, 96]. It follows from BrØndal's conception that it is the ideal set of possibilities that constitutes human Language in general - a singular one for all people on Earth - abstract, universal and eternal.

In modern linguistics (if, idealising, one considers that it presents itself as a kind of adequately singular whole entity, which began in Russia in the 1940-s-1950-s, whereas in isolated places even significantly earlier), the concept of law was being worked out on that set of ideas, which was obtained as a legacy of the preceding stage.

The first and foremost to be developed further was the idea of the statistical character of language development and its not-so-rigid determinateness. This idea was most clearly stated by Meyer as early as in 1925: "The formulae of general evolutionary phonetics denote a possibility, not an inevitability. It is possible to determine, how a consonant, positioned between vowels, should change, but it does not follow from this that it will change at all. Finding itself between vowels, *-k-* may change either into the glottal spirant *-x-* (Ger. *ch*), or into the voiced plosive *-g-*; *-x-* and *-g-* may

later undergo further changes dictated by their intervocalic position" [Meyer 1954, 78]. This simple and clear hypothesis, however, includes a whole gamut of previous ideas. Firstly, we can clearly distinguish here the same idea that Brøndal too had: the general structure of Language does not predict, in a positive sense, how exactly an element must change, and whether it will change at all, but absolutely certainly predicts, how it cannot change; not every change can take place as easily as any other. Secondly, for a change to take place, within the possibilities made available by Language, something else is necessary too - a certain external stimulus, conditioned in the final analysis by the social functioning of language in a definite historical setting (a stand that distinguishes the social concept of Meyer and of all latest linguistics from the Danish structuralism). Thirdly, the possible changes, if examined in a positive sense, i.e. after excluding the obviously impossible, show up as a kind of bundle, or scattering, of possibilities, which obey statistically regular patterns. This idea, as noted above, was already guessed in advance by Paul. However, it was worked out in most detail not by Paul, and not even by Meyer, but by I.A. Baudouin de Courtenay. He wrote in 1910:

"The entire multiplicity of representations in general, including both articulatory and acoustic, connected and associated among themselves, the entire multiplicity of receptive and productive skills is conveyed through language communication from one person to another, from one generation to another, from one ethnic group to another. In the course of this conveying process, despite all the variations and deviations, we can establish a surprising homogeneity and regularity of facts, constant coincidences and a causal relation between specific language phenomena" [Baudouin 1963, 201].

And further:

"Homogeneity and regularity, which shows up in the narrow sphere of individual cerebration (brain processes - Yu.S.) and in language communication, should be seen not as a dependence that can be captured by an exact formula of 'phonetic rule', but merely as a statistical statement of fact about a coincidence under certain conditions that exist in a part of the socio-linguistic communication".

Thus, the image of language, drawn in the spirit of structuralism, went on acquiring the following characteristic features:

- * possibility of algebraisation;
- * not-so-rigidly determined, plausible, i.e. potential, character;

- * connection with specific social groups of people in the socium;
- * connection with cerebration, i.e., in modern terminology, with neuro-physiological processes.

Simultaneously, the very understanding of structure was becoming clearer and narrower. Indeed, it can be safely said that the most consistent (and, thereby, drawn to the limit) understanding of structure was expressed in Louis Hjelmslev's *Prolegomena to a theory of language* (we quote below from the Russian translation by Lekomtsev [Hjelmslev 1960, 270]):

"*A priori* in all cases, what appears to be justifiable is the thesis that for every process (including a historical one), one can find a corresponding system, on the basis of which the process can be analysed and described through a finite number of premises. One should presume that any given process may be broken down into a finite number of elements, which are constantly repeated in various combinations. Subsequently, these elements may be consolidated into classes based on their combination potential. And finally, as is obvious, a universal and comprehensive calculus of the possible combinations may later be constructed. History, to take a specific example, if so constructed, would rise above the level of a purely primitive description, as it would have turned into a systematic, exact and deductive science with a theory, in which all events (the possible combinations of the elements) would be foreseen, and the conditions of their materialisation would be determined in advance".

Within the structure of language, an elementary linguistic opposition - binary opposition - was mooted as a main stream.

4. Language as a system

"Language as a system" is, in essence, the same as "Language as a structure", but with a definition that includes a kind of critique and modification of a strictly structuralist approach. System implies a singular whole dominating over its own components and consisting of elements and the relations that bind them. The aggregate of the relations among the elements of the system makes up its structure. Therefore, it is justified to talk about the structure of a system. The sum total of the structure and the elements constitutes the system.

The nucleus of the language system is formed by limiting units of language and the relations that bind them. Limiting units are understood to mean allophones, morphs, words, phrases and sentences or, in the abstract aspect, phonemes, morphemes, words, structural patterns of phrases and structural patterns of sentences. The relations binding the limiting units are understood to mean all types of paradigmatic and syntagmatic relations.

Adjoining the nucleus of the language system are non-limiting linguistic units and the relations that bind them: group-phonemes, quasimorphs, analytical forms of a word and complex sentences.

The nucleus of the language system in the most used strata of lexis, in grammar and in the productive strata of word-formation, makes up the centre of the system of language. The periphery of the system of language is made up of rarely used lexical strata, extinct word-formation strata and the grammatical categories that are moving towards extinction. While dying out, grammatical categories go through the stage of word-formation relations afresh and, finally, settle down in lexis, becoming facts of the vocabulary.

While determining the exact nature of a language system, it is essential to read precise sense into the expression dominates ("the system dominates over its own components and elements"). The system and the structure define the element as belonging to the given system and in this sense they dominate over it. That is why, when the system is being described, the logical determination of relations actually precedes the logical determination of the elements. However, the system and the structure do not predetermine the genesis of elements as individual objective phenomena of reality (for instance, that of material sound-types, or of meanings of words, as reflections of individual entities of objective reality), and in this sense, they dominate over the elements. Moreover, even in the case of domination in the system of language, an important role is played by vaguely determined, plausible relations - vague domination. The phenomena of continuum may serve as an example. In view of this, systemic historical reconstruction may yield the past language system, but is often not in a position to determine either the material form, or the origin of the elements. (The foregoing is based on the work: [Stepanov 1975, 228-229].) (See also [Solntsev 1977].)

In the final analysis, as Hjelmslev visualises it, the structure of language gravitates towards a very broad generalisation (for instance, why one and the same phonemic oppositions may be observed in languages of very

different families; why the ablaut series in the verb are similar in the Semitic and Indo-European languages; why the word order is one and the same in modern Celtic languages and in Hebrew, and so on): it is one and the same for all languages in general. But, the system of language, on the other hand, i.e. the material realisation of the structure, is always unique in every ethnic language, it is always idioethnic. Thus, in the modification of the thesis "Language is a structure" to "Language is a structure and a system", there is already in embryo a certain other image of language - as in something inimitable and unique.

5. Language as a type and a characteristic

Interestingly, this thesis (as, incidentally, it happens not so rarely in history) came to be asserted at the same time as structuralism did, but at first, it was only an accompanying, comparatively vague notion. It was only later that it became the basis of a new image of language.

Apparently, the first to combine the concepts of type of language and character of language (paying predominant attention to the second) was Mathesius with his theoretically important article of 1928, *On linguistic Characterology with Illustrations from Modern English* [Mathesius 1966a]. From the very beginning, Mathesius postulates - quite justifiably - two main principles of the new discipline, linguistic (or: language) characterology: 1) it should commence from the modern state of language, directly available for observation and without any kind of historic considerations, and its general aim is the synchronic relations in the given language (although this synchrony can be taken from different periods); 2) the characterology should identify profiling and fundamental characteristics of the given language system (herein lies the difference between characterology and a full descriptive grammar).

Mathesius then takes up the characterology of modern English and here he makes genuine (for that point of time) discoveries. He notes, firstly, a peculiarity of English: from the set of possible subjects of an utterance, the English speaker prefers that subject, which is most actual and effective at the given moment; since such a subject is usually the speaker himself, the typical subject in English speech turns out to be the first person singular pronoun, 'I'. (Contrary to the norms of behaviour in the society, where, as Mathesius says, the Englishman prefers not to underline his 'I'.) Mathesius compares the English utterance (1) with the German one (2):

(1) 'I haven't been allowed even to meet any of the company.'

(2) *Man gestattete mir nicht mit irgendjemandem der Gesellschaft auch nur zusammenzukommen.*

Since - as it follows from the very definition of characterology - it is the interrelations among profiling characteristics of language that are studied, in the instant case yet another striking peculiarity of English speech is seen to be connected with the above-noted characteristic feature: over long sections of English speech, one and the same grammatical subject can be found unchanged - i.e. the subject (person or thing) that is most actual in the given situation.

Mathesius' example (once again in comparison with German):

(3) 'You may take your oath there are a hundred thousand people in London that'll like it if they can only be got to know about it.'

(4) *Sie können Gift darauf nehmen, es gibt ein Hundert Tausend Leute in London, den es gefallen wird, wenn man sie nur dazu bringen kann, es kennen zu lernen.*

Later, Mathesius stresses the well-known feature of English - the love for passive constructions.

From the combination of the three characterological features of English noted above, emerges, finally, such a general property of English as the orientation of all that is being narrated, of the entire situation being described in English, towards the central subject - towards the 'I' of the speaker (examples 5 and 6):

(5) 'Upon examination of these, I found a certain boldness growing in me.'

(6) 'He found himself pushed into Mrs. Douglas's drawing-room.'

(This very feature is found, independently of Mathesius, in modern French, for instance, in such of its specific and at the same time typical constructions, as *Elle s'est fait faire la coiffure par un très cher coiffeur* - lit. 'She made to make herself the hairstyle by a very expensive barber', or *Elle s'entend dire par quelqu'un* - lit. 'She hears herself [as a hearer] being spoken to by someone'.)

These characterological features of English (and French) did not remain merely a keen linguistic observation. It was their very generalisation (without a direct connection to the work of Mathesius mentioned above or others - the discussion here is concerned with the features of language, and not with their treatment in the work of linguists) that led to the discovery, as a matter of fact, of a new logico-linguistic category, Fact, and led, based on it, to the new thinking on the principle of causality (see the next article).

Mathesius' work was continued in other aspects too. In the direction of characterology of language, his views (and those of a host of his contemporaries) led to the creation of a qualitatively new typology of language - to the rejection of taxonomic charts (quantitative typology and formal-syntactic classifications) and to the development of such a concept about language type, in which the latter is considered a self-tuning system that "gets optimised in accordance with the concrete determining tendency - the determinant" (thesis of G.P. Melnikov). It is an adequately singular typological line: conceptions of Humboldt (with his understanding of soul of language), of Baudoin de Courtenay, Habelentz and Sapir (with the concept of main sketch of language), of Skalichka, Sgall and Melnikov (with his concept of determinants). One of the latest works in this line - the dissertation of V.A. Rodionov under the supervision of Academician B.A. Serebrennikov - carries the characteristic title, *The Issue of Implicative Connection of Features in Determining the Type of the Language* [Rodionov 1988]. The 'implicative connections of features' in this context, in the characterisation of a language, were indeed one of the main theses of Mathesius. (Unfortunately, in the mentioned work, Mathesius himself remains unnoticed.) The foundation for a new typological approach in Russia was laid by a series of works by I.Sh. Kozinsky (1947-1992), who died an untimely death and whose work, unfortunately, remains little known; see, however, [Kozinsky 1979]. This approach is close to the one that is at present represented in *American Linguistics* by M.S. Dryer, J.C. Hawkins and others.

In another direction, the new understanding of language was developed in the thesis about the potentiality of the language system. A few years after the 1928 article of Mathesius quoted above, another Prague linguist, Artymovič, came out with a theoretically equally important article, *On the Potentiality of Language* [Artymovič 1966]), which constitutes a further development of Baudoin de Courtenay's thesis mentioned above (see 3). On the contrary, Artymovič stressed the difference between his own view and that of de Saussure, which is typically 'structuralist'.

"My viewpoint will become clearer, if we compare it with the system of de Saussure. Insofar as language belongs to semiological systems, de Saussure considers each word to be a 'seméon' (sign), carrying a certain meaning. In his view, a phoneme, if isolated, is devoid of meaning and hence does not belong to language. Only a word can be a 'seméon', capable of carrying meaning. But, after all, phonemes are elements of words and hence cannot be excluded from language. Word, on the other hand, exists, until its 'implementation', in speech, i.e. purely as a possibility, *in potentia*, and thus belongs to language, whereas the pronounced words, words after their realisation, belong to speech. Similar is the situation with the phoneme. The only difference is that there is a single term to denote word as a part of language and as a part of 'speech', while in the case of the phoneme, we have two terms at our disposal. De Saussure, obviously, passed over Baudoin de Courtenay's study and used this term as a synonym for the term 'sound'. But, it is necessary to use a more precise terminology: phonemes are elements of words and, since word itself belongs to language, phonemes along with words also belong to language as possibilities and exist *in potentia*. Implemented phonemes are called sounds and belong to speech, just as do realised words" [Artymovič 1966, 76-77].

Later - but on the basis of earlier studies of Charles Peirce, which were by and large unknown in Europe during Artymovič's time - the distinction noted by Artymovič was more precisely formulated as the distinction between a sign and a specimen of sign (a token). In such a form, it is used in the theory of algorithms, for instance, in the works of A.A. Markov in Russia (see, for example, [Markov 1951, 176-177]).

In yet another direction (based on another parameter) - concerning the issue of existence forms, including the problem of existence in potency, which had been well studied by logicians as early as in the Middle Ages - new studies were a long-time coming (in part owing to the ideological hurdles existing in Russia - U.S.S.R.) (see, incidentally, the distinction between subsistence - being out of time - and existence - being in actual time - in [Semiotics 1983, 586]). And it is only in the very recent times that existence forms started to be philosophically studied afresh in the area of New Russian realism. (The term 'realism' itself denotes here something that comes from the tradition of the Medieval realism as opposed to nominalism.)

Thus, in these works - and in many others that were not mentioned here - all the preparations were made and the stage was set for the appearance of yet another, also new, understanding and image of language, which will be discussed in section 7 below. But first, about the computer revolution.

6. The computer revolution and the computer approach to language

We are about to propound here the idea that the computer revolution, for which the works of Noam Chomsky in the 1960-s became the initial stage, did not change the viewpoint on language - contrary to what Chomsky himself and his followers usually presume - but indeed changed the viewpoint on linguistic theory.

For this purpose, we shall make use mainly of Chomsky's 1962 work, *The Logical Basis of Linguistic Theory* (Rus. trans. [Chomsky 1965]; it is from this translation that we quote below, except when we give our own translation and say so).

"When we use language as speakers and listeners, we are mainly dealing with new sentences; having learnt the language, we can fluently, without any difficulty or hesitation, operate such an enormous class of sentences that for all practical purposes and, obviously, for all theoretical purposes, we can consider this class to be infinite. (This position about the infiniteness of this class should now be considered inadequate; see below. - Yu.S.) A normal command over language presupposes not only the skill to easily understand an endless number of absolutely new sentences, but also the skill to recognise incorrect sentences, and, at times, to give an interpretation for them. The knowledge of the mother tongue may be represented as a system of rules, which we can call the grammar of the language. For instance, for certain utterances, the structural characterisation informs that they are properly constructed sentences. A number of such utterances may be called 'language, generated by grammar'. Thus, grammar is a device, which, for instance, makes available an infinite number of properly constructed sentences and compares each of them with one or more structural characteristics. Possibly, such a device should have been called generative grammar for distinguishing it from descriptive statements, which determine merely the inventory of elements participating in the structural characterisation and their contextual variants. The

generative grammar, factually assimilated by anyone, who learnt the particular language, is a kind of device, which, using Saussurean terminology, we can call *langue*" [Chomsky 1965, 465-467].

Undoubtedly, the explicit formulation of rules of the type being discussed here, which became the object of study for generative grammar of U.S.A. in the 1960-s and for its numerous offshoots and derivatives of our day, is a gigantic step forward in one of the directions of linguistic theory. However, such a view overlooks that progress is being realised in other directions of linguistic theory too, which are not connected with generativism. It should be recalled, first of all, that in the fully traditional grammars of the 19th century, there existed two sections, one of which, etymology, (i.e. morphology in the sense contemporary to us) described the structure of forms as that of elements of language, while the other, syntax, had to do with the rules of using these forms in speech. And these rules were formulated in the better grammars with such precision that it enabled even the learner (for example, one who is learning Latin or Greek) to distinguish between a correctly constructed sentence and an incorrect one which, generally speaking, is not so far from the tasks that generative grammar sets itself.

But, let us address the modern example of a different linguistic trend - *Russian Grammar*, produced by a jumbo team of authors led by N.Yu. Shvedova in Moscow and published in 2 volumes in 1980. Being a 'descriptive grammar', yet modern, this work affirms and realises in practice the description of something quite different from, if not diametrically opposite to, what Chomsky attributes to 'descriptive grammars'. In § 1893 (on page 85 of Vol. 2) of *Russian Grammar*, we read:

"Every sentence in its capacity as a grammatical unit has a predicative basis, i.e. it is constructed according to one or another abstract model. Thus, for example, the sentences 'The child is enjoying (himself)', 'The train is running', 'The boy is reading', 'The factory is working' are based on the abstract model (structural pattern) 'nominative case of noun - conjugated form of verb, expressing, in tandem with each other, the relations, in relation to time, between the processual feature (action or condition) and its carrier'. The predicative basis of the sentences 'Winter', 'Groan', 'Quarrel' is the nominative case form of noun, which, in its capacity as a syntactic unit, denotes what is present and its presence, existence. All the abstract models of simple extended sentences, which belong to the

modern literary language, can be enumerated: their number is limited, while the main features and the very existence are extremely stable" (emphasis mine. - Yu.S.)

There is no doubt that the sentences being thus described may be reduced to propositional functions with the fields of determination of their arguments (actants of the sentence) and, consequently, have been computerised in our times. The position about the infiniteness of the class of sentences should be corrected accordingly.

Let us return, however, to what became the historically first form of computerisation in linguistics - to the generative grammar of Chomsky.

"The aim of any traditional grammar is to make it possible for the reader to understand arbitrary sentences in the language being described, as also to construct them himself and to use them correctly in the corresponding cases. Thus, a traditional grammar sets for itself the same (at least) general aims, as does the generative grammar described above" [Chomsky 1965, 472].

The difference between them consists only in it that the generative grammar "attempts to construct rules, formulated clearly and describing in full the structural information, which a mature native speaker commands and uses" [ibid.].

Had the affair been restricted to formulations of the above kind, it would have been absolutely clear - as we already said above - that generative grammar significantly changed the view on the theory of describing a language, having brought it closer to the tasks of the computer age.

However, the claims of generative grammar go far farther than this, and it proclaims itself in the role of one that transformed the view on language itself, which, we shall attempt to show, does not conform to reality.

Having changed the view on the tasks of linguistic theory, generative grammar thereby changed - for the better - the view on the creative aspect of the speech act.

"As far as the creative aspect of the speech act is concerned, there were two opposing points of view in 19th century linguistics. On the one hand, we have the opinion of Humboldt" [ibid., 473]. Chomsky quotes here a series of Humboldt's views. For example, the following: "Language

should be considered not as a frozen result of generation, but as the process of generation itself" [quotation from Humboldt's work *On the Difference of Human Language Structure*]. Humboldt connects this "creative aspect" of language with the form of the language (not to confuse with the "internal form" of word and of other elements of language). And what is "form of language"? Here Chomsky quotes several passages from Humboldt in German, which we shall quote with our own Russian translation:

"Language consists, apart from elements that have already taken shape, mainly of the methods for the further development of the work of the soul, for which language shows the way and the form".

"All that is constant and uniform in this work of the soul, manifest in the elevation of the articulated sound to the expression of an idea, being represented so completely, as is only possible, in all its interrelations and systemicity, gives the form of the language."

From these (and other) statements of Humboldt (on the question of form, specifically, they are systematised in the publication [Humboldt 1984], - cf. the Index there), it is absolutely clear that the concept form of language in his view relates to the work of soul with language, and not to the actual (internal) design of language. But the principles, on which the soul works with language (way and method), are indeed given by language in the form of systemic relations among its elements. Therefore, while considering Humboldt's and Chomsky's understanding of language, the conclusion should be drawn that both belong to one and the same type: language is understood as a system, consisting of elements and the relations among them; the latter, however, are such, that they function - for the perceiving soul - in the form of rules that show it the way and the method of operating the language. That is why, it is also obvious that, if the linguist's area of studies includes (as proposed, specifically, by Chomsky) a description of the linguistic intuition of the native speaker of the language (i.e. of the way and the method), then this carries out not an extension of the concept of language, but an extension of the concept of linguistic theory.

Chomsky himself perceived this, apparently, otherwise: that the reforms in linguistics, connected with the appearance of generative grammar, radically change the views on language itself. This is apparent, specifically speaking, from the following:

"In 19th century linguistics, the concepts of Humboldt are sharply contested by another point of view, which is most clearly expressed, one may say, in the works of Whitney: 'language in the concrete sense [is] the sum of the words and phrases, through which people express their thoughts'" [Chomsky 1965, 479].

In this definition, no sharp contest whatsoever to the concepts of Humboldt is seen. On the other hand, it is one and the same understanding of language with merely the difference that Whitney includes in the concept of language only elements, whereas Humboldt includes elements and the systemic relations among them. The difference with respect to the work of the soul on language too is not so great: for Humboldt, this work is more active, more dynamic and, naturally, more systemic, than in the thinking of Whitney. But that is all. In another place (p. 446), Chomsky quotes the following assertion of Hermann Paul: "the fundamental mistake of old linguistics lies in the fact that it treats any kind of speech, insofar as it does not deviate from the established norms of usage, as something that can be reproduced only by purely mnemonical means, with the help of memory" (*Principles of History of Language*, quoted here from the Russian translation [Paul 1960, 131-132]). In connection with this passage from Paul, Chomsky comments: "The very concept of 'creative activity' suffered from serious drawbacks. Thus, it is extremely notable that the assertions of Paul, mentioned above, are taken from the chapter on analogous changes" [Chomsky 1965, 478]. Chomsky overlooks the fact that analogy in linguistics of Paul's time was actually considered the main manifestation of the principle of systematicity of language, which cannot be reduced to the concept of combination of elements.

And thus, the appearance of generative grammar and the subsequent computerisation of linguistics marked the changes in points of view on linguistic theory - the latter came to be understood as the study of how human thought works with language. But, it did not to any extent change the fundamental thinking on language itself, which continues to be considered in these trends in linguistics (although it is not always openly conceded) as an instrument of thought and perception. Moreover, such an understanding of language returns these linguists in many respects back to the views of Aristotle, which were a shining example of the tool concept of language, asserting that language is the 'tool of thought'.

The essence of language - to the extent that it can be uncovered at all - can be uncovered not by instrumental, but by philosophical view. The

definition "Language is the abode of soul" remains in our times the most penetrating. The rest of our write-up is devoted particularly to the philosophical comprehension of language (see the next article).

In this connection, let us note one more point. An opinion that has gathered widespread currency is that Humboldt perceived "language as an activity". It became especially widespread in Russia after the appearance of a book by V.I. Postovalova, in which this thesis is brought into the title: *Language as Activity. An Attempt to Interpret V. Humboldt's Concepts* [Postovalova 1982]. A parallel to this in American linguistics to some extent is the thesis, "Language is a Generating Mechanism", which too is traced back to Humboldt. I would like to express certain views against such an understanding.

Indeed, we find in Humboldt: "By its actual nature, language is something constant and at the same time, it is at any given moment transitory. Language is not a product of activity (*Ergon*), but activity (*Energeia*). Its true definition can therefore only be genetic" [Humboldt 1984, 70]. However, if this assertion is taken not metaphorically, but literally, it sounds very strange: "language is activity"! Whose activity, activity of what subject or agent? If activity of the soul, then on this count we have other assertions of Humboldt, and some of them have been mentioned above. It follows from them that activity belongs to soul, which is what acts as subject or agent; language is, to be sure, an instrument of this activity, although it is an instrument of a special kind. But, let us directly address Humboldt's assertion just quoted. It is no mere chance that he explains his idea using ancient Greek terms, to which we must turn now. While the term *ergon* (*εργον*) does not pose special difficulties and its relation to the German description in this passage is adequately monosemantic, the issue stands differently in the case of the term *energeia* (*ενεργεια*). Only in its first, most trivial meaning does it mean activity, sometimes also power of tool, of device. But, in philosophy, it denotes something significantly different. Thus, Aristotle has: reality in its materialisation, essence in the sense of actuality, etc. - it is sufficient to look into the dictionary [Liddel - Scott - Jones 1985, 564]. For example, in *Metaphysics* (vol. VIII, ch. 6, 1045 b 19): "Meanwhile, as was said earlier, the last matter and form is one and the same, but one is in the possibility (*δυνάμει*), the other is in the reality (*ενεργεια*)...." (translation as per [Aristotle 1976, 233]).

If we take all this into consideration, it must be said that the interpretation of Humboldt's thesis does not end, but rather just begins.

To conclude this section, we shall only point out that, in *American Linguistics*, captured by the boom of Generativism, not a single general understanding, of any significance, of language has been formulated. On the contrary, the appearance of language, like the image in the faceted eye of a dragon-fly, is more and more split up into various mini facets of the type 'Language as a functional system, Language as activity' and so on and so forth. A testimony to this is the following list, courtesy Dem'yankov, based on a voluminous bibliographical study conducted by him:

- language and communication
- language and culture
- language and gestures
- language and informing
- language and man
- language and mind
- language and nation
- language and national spirit
- language and reality
- language and society
- language and speech
- language and thought
- language and world
- language as a functional system
- language as activity
- language as calculus
- language as classificatory system
- language as code
- language as cognitive instrument
- language as convention
- language as *energeia*
- language as form
- language as functional system
- language as instrument of communication
- language as instrument
- language as message vs. language as expression
- language as representation
- language as secondary modelling system
- language as semiotic code

language as semiotic
language as structure
language as system vs. language as activity
language as system
language as tool of communication

This eloquent list testifies, incidentally, to yet another facet - how enduring national traditions in science are. In the present case, if after the various mini facets there arises any general definition of language, it is just this: language is a total combination of its aspects. And this is something absolutely similar to the American (descriptivist) definition of phoneme as obtained in the 1960-s: a phoneme is a class of functionally identical allophones. With which, of course, not a single linguist of a European school would ever agree: for him, a phoneme is something more than just a class of allophones.

7. Language as the space of thought and as the abode of the soul

By giving such a headline here, we do not intend to say that it is this given definition in this given formulation that is the only resulting definition obtaining towards the end of the 20th century. Things actually stand somewhat differently: the given formulation merely stands for a whole class of new definitions of language, among which there are a few differences, but - what is far more significant - they all decidedly differ from the definitions of the preceding period and, foremost of all, from the definitions connected with the computer revolution.

The proto-image, one may say the prototype, of definitions brought into this headline by us, is the widely known definition given by the existentialist philosopher Martin Heidegger: "Language is, simultaneously, the home of the being and the abode of the human being" [Heidegger 1988, 354]. In Heidegger's system, it had to do with a radical rethinking of the tasks of philosophy in general, and, with surmounting the metaphysics and philosophical anthropology of older times, in particular. We will not now go into the Heideggerian reform of this special branch of philosophy, but will restrict ourselves to a philosophical commentary on it. This was well formulated by Podoroga.

A philosopher, according to Heidegger, should be able to listen carefully to the being of the being, to listen to the deep silence that surrounds the material thing; he should be able to renounce the rational information

being imposed by external factors - in the form of various logical and informative systems that suppress the natural organic forms of language.

"However, in Heidegger's opinion, the meaning of 'natural language' is not at all in ending up being surmountable. Refusing to follow the paths of organic development, language is doomed to be transformed into a tool for a purely formal streamlining of empirical facts and events, into a universal language that is fit merely for a logico-symbolic reckoning of the world. Then, every form of a natural language 'in advance appears to be, surely not yet formalised, but already doomed to be formalised'. And if language will be restricted to an applied function alone - to be merely a means for something that is alien to its very nature (and Heidegger was convinced that matters were actually precipitating towards this) - then it faces the threatening prospect of being transformed into a dumb automatic regulator of the general flood of information. Language abandons its natural purpose of being the 'abode of the being' and becomes a disappearing intermediate between deed and being" [Podoroga 1993, 289-290].

Thus, Heidegger's thesis - and his aphorism - signified a return to explorations of the essence of language, and in this was its great historical significance.

We shall not trace further the threads of Heidegger's thought - not only on considerations of space, but also on perfectly principled considerations - for the express reason that, in Heidegger's system, the concept of language is ontologised to the utmost extent. It is rather the limiting point in the discussion in this direction.

We shall stay nearer to the middle, and shall define language as "home of the being of the soul". A variation of the same definition will be the following: "Language as the space of thought". Under the latter, as is obvious, will come the cognitological definitions of language connected with the data from modern cognitology - the discipline studying the operations with knowledge. (From our side, we developed this understanding of language in our work of 1985, that is why we gave it the following title: *In the Three-Dimensional Space of Language: Semiotic Issues in Linguistics, Philosophy and Art* - see [Stepanov 1985].)

Although our definitions are obviously narrower than Heidegger's, they still retain something significant from the latter - foremost of all, the

reference to the image of space. Image of language acquires the traits of image of space, in all senses - of a space that is real, visible, spiritual, mental; this is one of the most characteristic features of linguo-philosophical reflections on language in our times.

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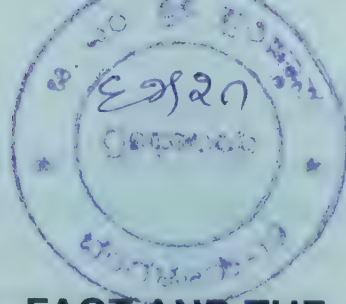
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(Ed.)



ALTERNATIVE WORLD, DISCOURSE, FACT AND THE CAUSALITY PRINCIPLE*

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Abstract

Here, in his second article, Prof. Stepanov takes off from the concluding image of Language in the first article, viz. "Language as the abode of the soul", which "covers very well" both the cognitological (linguo-technological) and the logico-philosophical approaches to Language, and gives a lucid account of how the latter gave rise to "three concepts, so important for our mental world in general, viz. 1. language in language or discourse, 2. a new category named Fact, 3. a new understanding of cause and the causality principle". The discussion of these three concepts draws from fascinating illustrations of the Soviet method of operating with language, the methods of analysing sentences and discourse adopted by various thinkers, revisiting the Oedipus paradox, and so on.

And thus, having studied several definitions of language, which are principal for the 20th century (see the preceding article *The Changeable "Image of Language" in the 20th Century Trends of Thought*), we must come to the conclusion that the definition "Language is the abode of the soul" is the most general one. It is not very significant that it can be traced back to an existentialist philosopher and that it has been given an existentialistic form; we could have quoted not less than ten more similar definitions of different philosophical hues (including our own - "Language is the space of thought"). If we chose the given definition, it is only because it sounds like an aphorism, it is beautiful, and it can be easily remembered.

As far as its generality is concerned, indeed, it covers very well at least the two following dominating perceptions on language at the end of the present century. The first: language is inseparable from knowledge and, most importantly, from the procedures for obtaining knowledge and for

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operating with it; this understanding, cognitological, belongs to a new set of disciplines - Cognitology - and is closely connected with practical activity in the field of computer informatics. It is easy to see that here the dominating role is played by a general activity approach. The second connects language with a deep, philosophical comprehension of reality: language is the space of philosophising. It has a more quiet and contemplative-philosophical character. Of course, both the perceptions are different. But, they are not in opposition to each other, they complement each other. The definition "Language is the abode of the soul" can apply to them equally well. The difference lies, rather, in the understanding of the very soul itself - as energetically acting, like an entrepreneur, in the first case, and as quietly contemplative, in the second. This difference is more akin to a religious one, than a scientific one. And, nevertheless, it is very significant. If the first approach personifies, rather, modern linguo-technical achievements, since this approach is at the apex of modern technology, the second lies in the sphere of logico-philosophical explorations.

Our further discussion here will have to do with the second approach. We shall show that, within the framework of this trend arose three concepts, so important for our mental world in general, viz. 1) language in language, or discourse; 2) a new category - Fact; 3) the new concept of cause and causality principle. We shall present them in this very order.

1. Discourse

The term discourse (Fr. discours) came to be used widely in the beginning of the 1970's, initially in a sense, which is close to that of the term functional style (of speech or language) in Russian linguistics. The reason why, during the currency of the term functional style, the need for another term - discourse - was felt, lies not in the subject of study, but in the peculiarities of the national linguistic schools. While in the Russian tradition (especially in what got strengthened in this respect by the contribution of academicians V.V. Vinogradov and G.O. Vinokur), functional style meant first of all a special type of texts - colloquial, bureaucratic, journalistic etc., but it also meant, corresponding to each such type, its lexical system and its grammar - there was nothing analogous in the Anglo-Saxon tradition, primarily because there was no Stylistics as a specialised branch of Linguistics.

Anglo-Saxon linguists came round to the same subject, so to say, giving tradition the go by - as they would approach the special features of texts. Discourse in their understanding initially stood for the texts themselves in

their textual givenness and in their peculiarities. T.M. Nikolayeva in her *Miniature Dictionary of the Terminology of Text Linguistics* (1978) writes under this entry:

"Discourse - a polysemantic term of text linguistics, used by various authors in meanings, which are almost homonymous (i.e. not even synonymous - Yu.S.). The most important of them are: 1) connected text; 2) oral-conversational form of text; 3) dialogue; 4) a group of utterances, inter-connected by their sense; 5) a speech act as given - written or oral" [Nikolayeva 1978, 467].

Only significantly later did the Anglo-Saxon linguists realise that discourse is not just the 'givenness of the text', but also a certain system behind this 'givenness', foremost of all, grammar.

"Initially, - wrote T.A. van Dijk and V. Kinch in 1983, - the theoretical presumptions based on the premise that grammar should explain systemic-linguistic structures of the whole text, thus transforming itself into the grammar of the text, remained declarative and, as before, too close by their own nature to the generative paradigm. However, soon both the grammar of the text and the linguistic studies on discourse developed a more independent paradigm, which was accepted in Europe and in the United States" [van Dijk and Kinch 1988, 154].

However, in this work of the two authors too, as before, dominates a purely textual approach - texts are considered, on the whole, as 'speech acts', which are too numerous in number, perhaps infinite, and which therefore call for developing merely the general principles for their understanding (for 'their grammar'), but not the real, concrete grammars of various types of discourse.

Meanwhile, V.Z. Demyankov, in his *Dictionary of English-Russian Terminology of Applied Linguistics and Automatic Text Processing* (N 2, 1982), succeeded in giving a summarising sketch of what is grammar and, extending further, world of discourse. He wrote (we leave out his numerous references to different works that support his generalisations):

"Discourse - an arbitrary fragment of text, consisting of more than one sentence or more than one independent part of a sentence. Often, but not always, concentrated around a certain basic concept; creates the general context, which describes the dramatis personae,

the objects, the surroundings, the times, the actions etc., being guided in this not so much by the sequence of the sentences, as by the world, that is common to the creator of the discourse and its interpreter, a world that gets 'built' as the discourse unfolds itself, - this is the point of view called 'ethnography of speech', cf. the Gestaltist approach being proposed (in one of the works - Yu.S.) to discourse. The initial structure for discourse has the form of a sequence of elementary propositions, inter-connected by logical relations of conjunction, disjunction etc. The elements of discourse are: the events being narrated, their participants, performative information and non-events, i.e., a) the conditions accompanying the events; b) the background explaining the events; c) the appraisal of the participants of the events; d) the information that correlates the discourse with the events" [Demyankov 1982, 7].

This definition, the best until today, shows that, to understand what is discourse, we need, not so much any general recommendations (which were the aims and objectives of, for instance, van Dijk and Kinch in the work mentioned above), - after all, discourse is described like any language (and not just a text), like any language that has its own texts - what we need are good descriptions of discourses, without which their theory too cannot progress. And such descriptions were not long in coming. And that too on what material!

We have in mind the work - that has already become a classic - of the Franco-Swiss linguist and culturologist Patrique Sériot, *Analysis of Soviet Political Discourse* ("Analyse du discours politique soviétique", Paris, 1985) (see [Sériot 1985]; hereafter we refer to the pages of this edition).

Sériot begins his study as a historical one, showing what effect was brought to bear on Russian language by the 'Soviet method of operating with language' in the course of decades of Soviet order.

What was obtained in Russian language - a new language? A new 'sub-language'? A new 'style'? Sériot's answer is, "No. What was obtained in Russian language should be called by the term discourse". We, from our side, shall preliminarily explain this phenomenon as follows: discourse is first of all a special use of language, of Russian in the given case, for expressing a special mentality, in the instant case a special ideology too; a special use entails the activation of some features of the language and, in the final analysis, entails a special grammar and special lexical rules. And, as we

will see later, it creates in the final analysis, on its part, a special 'mental world'. In France, the discourse of the Soviet ideology of the Khrushchev and Brezhnev era earned for itself, among those who knew Russian language, the name *langue de bois* "wooden language" (in France, there also exists the expression *gueule de bois*, obviously analogous to the one just mentioned above, but used generally to what a person feels in the mouth during a very bad hangover).

Of course, discourse exists not only in the obviously designated political sphere. Let us consider modern "Russian speech etiquette" (some books even have such titles). Does it concern the norms of Russian language? "No", again answers Sériot. "It only deals with the norms of discourse, which the authors of such works wish to pass off as the norms of Russian language as a whole." And this assertion by Sériot is an absolutely correct one. He sets himself the task of 'reading the lines', and not 'reading between the lines': discourse first and foremost is texts (first and foremost, but, as we will see below again, far from merely texts). Sériot analyses two texts - which are 'fundamental' for the mentioned era - right through the minutest details: N.S. Krushchev's *Report of the Central Committee of the Communist Party of the Soviet Union to the 22nd Congress of CPSU* (1961) and L.I. Brezhnev's *Reporting paper of the Central Committee of CPSU to the 23rd Congress of the Communist Party of the Soviet Union* (1966). The results of the analysis show two striking peculiarities of the Soviet political discourse of that era - the so-called nominalisation and the so-called co-ordination (i.e. the co-ordinate relations of certain parts of a sentence).

Nominalisation as such constitutes nothing new. It is one of the general tendencies of the group of languages, which includes Russian. But, in the Soviet political discourse, this tendency acquires extremely hypertrophied proportions and gets refracted in a special way. Here is a typical example (from Brezhnev's paper, from the book *Along the Leninist Path*, Moscow: Pol. Lit. Pub., 1973, p. 313):

"The main source of the growth of productivity of labour should be an increase in the technological level of production on the basis of the development and introduction of new technologies and progressive technological processes, of a wide use of integrated mechanisation and automation, as also an intensification of the specialisation and an improvement of co-operation of enterprises in production".

The semantic result of such innumerable nominalisations, i.e. substituting the personal forms of verbs with their derivatives ending in *-aHue*, *-eHue*, *-ayyA* (akin to Eng. *-ment*, *-tion*) etc. is the disappearance of the subject, of the agent of what is being spoken about. All processes acquire an impersonal character, although not similar to that of the classic impersonality in Russian language (for example, *MeHЯ maK u oceHyлo* ["It dawned upon me"]; *Ezo бyдmo бbлyдapyлo* ["It kind of struck him"]) and so on). And once the subject is eliminated, there is every possibility for further, already purely ideological, manipulations with the named essentials.

Co-ordination is the other peculiarity of the Soviet political discourse. It acquires two main forms. In the first, the conjunction *и* is used to join two (or more) concepts, which, in usual Russian speech, i.e. beyond the boundaries of the given discourse, are not synonymous: for example, 'the party', 'the people' - the result is 'the party and the people'. In the second, which is another form of co-ordination, the conjunction 'and' is totally eliminated and the logical relations between the conjoined concepts acquire a form that does not yield to any interpretation: for example, 'the party, the entire Soviet people'; 'the Komsomols, the entire Soviet youth'.

The result of this procedure is the following semantic paradox: a great number of concepts turn out in the final analysis to be synonymous with each other, which in turn induces the idea of their real co-relation in 'life', of their being kind of identical. Sériot gives the following list of co-ordinated concepts - the illustration of the paradox [Sériot 1985, 95]:

the party = the people = CC (Central Committee) = the government = the state = the communists = the Soviet people = the working class = all peoples of the Soviet Union = every Soviet citizen = the revolution = our Congress = the workers = the collective farmers = the partyless = the workers of state farming = the specialists in agriculture = etc. (we omit a part of the list) = the peoples of all brotherly Republics of the Soviet Union = the society = the engineers = the technologists = the designers = the scientists = the collective-farm peasantry = the peasants = the delegates of the 22nd Congress = the peoples of other countries = the entire mankind = workers of the whole world = the entire socialist camp = socialism = the masses = the millions.

Exactly similar is the correlation concerning those who pronounce a summary report. But, here, the issue is even more complicated: "What does Khrushchev or Brezhnev do, while 'addressing with a report'? - 'reads a

report' (or: 'reads' it 'out')? 'pronounces a report'? 'makes a report'? etc. It is obvious that all these various forms presume different kinds of participation of the author, different degrees of responsibility of the author for the text of the report. And, in a manner exactly similar to what we noted above in the case of nominalisation, there occurs a 'disappearance of the authorship' and, simultaneously, a 'disappearance of responsibility': officially, almost only one expression is acceptable - 'addressed with a report'.

On the other hand, co-ordination too leads to the same result; it turns out that the 'origin' of the text is: I (= Gensec) (General Secretary) = CC (Central Committee of CPSU) = the entire party = our country = we; and its 'recipient', 'addressee' is: delegates of the congress = all communists = the people = the entire progressive mankind = all people = we [Sériot 1985, 71].

Let us now examine certain common features of discourse in general.

Discourse, apparently, is created not in every kind of language, or, to be more precise, not in every kind of field of linguistic culture. We will see later (in sections 2 and 3) that discourses, specifically the 'discourse of Emperor Oedipus', are notable in Ancient Greek language of the corresponding era. This is connected, apparently, with the availability of a special mythological layer in the Greek culture of that period. But, does not discourse always, including our own times, constitute an expression of some kind of mythology?

In any case, discourse cannot be reduced to style. And that is exactly why the stylistic approach, the creation of stylistics as a specialised discipline within the framework of learning a given language, is at present not adequate. Sériot [Sériot 1985, 287] shows this effectively by comparing Russian political discourse with the translations of its texts into the Czech language. Let us take, for instance, the following utterance from the Soviet political discourse:

"In contrast to other forms of organisation of social-productive labour of the students, the school team helps in solving most successfully the tasks of mass initiation of teenagers and youth into *kolkhoz* (collective farming) production, (the task) of the provision of their labour through pedagogical and agrotechnical guidance, (the task) of fulfilment of the entire gamut of field activities by the students, (the task) of utilisation of mechanisation".

The Czech translation:

"Na rozdíl od jiných organizačních forem společenské výrobní práce žáků pomáhá školní brigáda nejzdařileji řešit úkol, aby byla dospívající mládež masově zařazena do kolchozní výroby, aby její práci bylo zajištěno pedagogické a agrotechnické vedení, aby žáci vykonávali celý komplex polních prací a aby bylo využito mechanizace".

If one were to approach the comparison of these samples of text merely from the point of view of linguistic characterology and comparative stylistics, as was ordered in the spirit of the corresponding definition of language (see section 5 in the preceding article), then one would exactly leave unconsidered and unrealised that very difference that the Russo-Soviet nominalisations are conveyed in Czech by means of comprehensive sentences and, consequently, in the Czech language, there does not exist the fundamental ambiguity of the Soviet political discourse noted above.

Another special, constituent feature of discourse is that it presupposes and creates a kind of ideal addressee (as Sériot says, *un Destinataire idéal*). This ideal addressee of the discourse is different from a concrete recipient of speech (*un récepteur concret*), exemplified, specifically, by all the delegates of the Congress of the CPSU, sitting in the hall and listening to the summary report.

"The ideal addressee, - says Sériot, - may be defined as one who accepts all the presuppositions of each sentence, thus enabling the discourse to materialise; besides, the discourse-monologue acquires the form of a pseudo-dialogue with an ideal addressee, in which the addressee takes into consideration all the presuppositions. Indeed, to reject the presuppositions would tantamount to rejecting the rules of the game and thereby denying the report-presenting speaker his right to the orator's place, which he is occupying".

But, what is the nature of these presuppositions? They have been indicated in the preceding analysis. Specifically, one of the strongest is the following: the nominalised groups (nominalisations in place of propositions that contain the assertion) happen to denote the objects (the referred) that are really existing; but, their existence (i.e. the assertion of existence) has not been made out by anyone: nominalisations of such a kind function as 'semi-finished products', which were manufactured by someone (it remains unknown, who manufactured them) and which the speaker (orator) merely

makes use of, inserting them in his speech. Sériot calls these 'semi-finished products' - nominalisations - with a special term, *le préconstruit*, which may approximately be translated as 'preliminary intermediates', or, as we already said, 'semi-finished products'. (In French, for example, assembled houses are referred to with an analogous term, *préfabriqué* 'prefabricated'.)

These peculiarities of discourse entail new requirements for its logical analysis. Sériot illustrates this through the following example (p. 241 onwards). Let us say, we have a sentence (this is a real sentence from the report of N.S. Khrushchev):

"The world-historic victories won by the Soviet people are the most convincing evidence of the proper use and the creative development of the Marxist-Leninist theory".

The normal logical analysis, i.e. analysis in terms of propositions-assertions, would have been as follows:

1. The Soviet people won world-historic victories;
2. The Marxist-Leninist theory is being used / was being used / was used properly. - N is using / was using / has used the Marxist-Leninist theory properly;
3. The Marxist-Leninist theory is developing / was developing / has developed creatively. N is developing / was developing / has developed the Marxist-Leninist theory.

However, in view of the presence, in the original context, not of propositions, but of nominalisations, all these assertions and the corresponding syllogism are as if eliminated in advance, or, speaking now more precisely in terms of discourse analysis, they are established in advance as not requiring any evidence, as *préconstruit*.

In his work, Sériot creates a sketch of a new type of logical analysis, which can be applied to the Soviet political discourse and, as we see it, to discourse in general. Here, we shall leave aside this part of Sériot's study; the new type of analysis will be elucidated in more detail below, based on the data, mainly, of the so-called 'Pennsylvania school' of U.S.A., especially in the works of Zeno Vendler.

To conclude this section, we shall note just one detail, not so unimportant for our book: the so-called classical generative analysis does not give adequate results in cases similar to the one just examined.

"The classical generative model (i.e. a model of syntax, which functions without considering the lexis, even if it takes into consideration the 'lexical restrictions', *des contraintes de sélection*) would have given in such cases an analysis based on the presentation of the syntagmatic sequence (of the components of the sentence.- Yu.S.) Such an analysis functions, in our view, through the atomisation of surface units" [Sériot 1985, 319 onwards].

Meanwhile, the essence of the analysis, as justifiably concluded by Sériot, should lie exactly in describing the fundamental peculiarity of a discourse of the given type - ambivalence or fundamental ambiguity (*ambivalence ou ambiguïté*) of its nominal groups - nominalisations. Sériot has successfully approached the formulation of this task.

The next step in its fulfilment was connected with the works of the 'Pennsylvania school' of U.S.A. and with a new interpretation of the categories of Fact and Cause.

So then, what is discourse?

Drawing conclusions for this section, it must be stated that discourse is a 'language in language', but presented in the form of a special, social, given entity. Discourse exists in reality not in the form of its 'grammar' or its 'lexicon', like simple language. Discourse exists first of all and mainly in texts, but in such texts, behind which stand a special grammar, a special lexicon, special rules of word use and syntax, special semantics and - in the final analysis - a special world. Functioning in the world of any discourse are its own rules of synonymous substitution, its own rules of truthfulness, its own etiquette. It is a 'possible (alternative) world' in the fullest sense of this logico-philosophical term. Every discourse is one of the 'possible worlds'. The very phenomenon of discourse, its possibility, is proof of the thesis 'Language is the abode of the soul' and, to a certain extent, of the thesis 'Language is the abode of the being'.

Therefore, in the next section below, when we move over to analyse the category of Fact, we will be talking not only about the categories in the forms of language (this is, from the times of Aristotle's Categories, the main principle for discussing categories), but also about the categories in the

forms of certain discourses, and this is already a certain novelty. It has a logico-linguistic character. Strictly speaking, Bertrand Russell had already - if not foreseen it (insofar as he addressed issues other than those, to which we want to apply his thinking) - in any case, prepared the ground for it in his theory of types, enunciated in *Principia mathematica* (in the 1st volume, 1910), written jointly with A.N. Whitehead, which was initially intended for solving the problem of logical paradoxes (cf., for example, the well-known 'paradox of the liar' etc.).

"The main principle of this theory, - summarises H.B. Curry, - is that the logical concepts (utterances, individuals, propositional functions) are distributed in a hierarchy of 'types' and that a function may have as its arguments only those concepts, which precede it in this hierarchy, but do not belong to its level" [Curry 1969, 47].

Insofar as any sentence, constructed according to a normal model, may be reduced to some propositional function (while doing so, the predicate becomes the expression of the function, while the subject and the objects become its arguments), and insofar as discourses are distinguished by the types of their sentences and, consequently, by their propositional functions, it is clear that this stand taken by Russell also has a direct relationship with the logical description of discourses. This becomes even more obvious if we recall Russell's other assertions on this issue, for instance, the following: "If words happen to be words of different types, then the meanings expressed by them also happen to be meanings of different types". On the other hand, the theory of types takes a re-look at the all-too-common or naive presumption that every grammatically correct sentence expresses some intelligent statement.

But, on the other hand, the same assertion was made, in a completely different terminology and in a different scenario of views, in the understanding of language 'as a system of systems' (language, in essence, is not a system in the semiological or semiotic sense of the word, but is verily a system of different systems). Thus, what we are talking about here and would be talking about in the next section is in a way a consequence of the understanding of language 'as a system of systems', mentioned and examined above. And that section is the discovery of the category of Fact.

2. The Category Fact

We are about to talk about fact as a new category, more precisely, as a category discovered recently. It is natural that a discovery demands a certain

historical background for its description, hence we shall examine this issue over a certain period in history. Let us formulate the landmarks of this period in the form of two issues, which were being raised and the solutions for which were being attempted, correspondingly, at the beginning and at the end of this period, or, to be more precise, in the form of two assertions, which were being put forth as answers to the questions that arose.

(1) **For fact, the linguistic symbol does not constitute a name.** This is Russell's main thesis during the period of the logical atomism, i.e. the 1920-s. This is also the beginning of that very problem, which interests us now. "Facts may be affirmed or negated, but not named. (When I say, "facts can be named", it is, strictly speaking, meaningless. Without getting into absurdity, one can only say as follows: For fact, linguistic symbol is not a nominal)." [Russell 1959, 43]. Then, what is an adequate linguistic symbol for fact in Russell's theory of those days? Sentence (proposition), and specifically, atomic sentence.

But, then, fact is that, which is expressed by the sentence, or the proposition (all the terms used here conform to Russell's position during the said period). Behind such assertions stands a special understanding of the world: the world consists not of things, but of events, or facts.

Later, while working on the book *Human Knowledge: Its Prospects and Limits* (1948, Rus. tr. 1957), Russell defined fact without reference to language:

"Fact, as I understand this term, may be defined only through illustration. All that is present in the Universe, I call fact. The Sun is a fact; Caesar's crossing the Rubicon was a fact; if my tooth is aching, then my toothache is a fact. If I assert something, then the act of my assertion is a fact, and if my assertion is true, then there is a fact, on the strength of which my assertion is true, but there is no such fact, if it is false. Facts are what makes assertions true or false" [Russell 1957, 177].

Fact for Russell in the final analysis turns out to be a directly observable (given in experience) portion of space-time, whether this portion is 'Caesar' or 'Caesar's crossing the Rubicon' or 'the beginning of the Second World War'.

In introducing the concept fact thus, Russell, as may be judged from all his works put together, had two main aims. On the one hand, he wanted

to base philosophy in general, and philosophy of language in particular, on the foundation of English empiricism. In accordance with this orientation, there should not have been any place, in theory, for empirically (experimentally) unproven primary positions (concepts). He stressed this once again in his polemics with J. Dewey:

"Dr. Dewey is mainly concerned with theories and hypotheses, whereas I am concerned mainly with assertions about particular matters of fact. As I already explained, I consider that in any empirical theory of knowledge, the basic assertions should deal with particular matters of fact, i.e. singular events, which happen only once" [Russell 1980, 324].

(Thus, let us note by the way, in Russell's theory, event is either a synonym of fact or, in any case, one of the variations of facts.)

On the other hand, while introducing the concept of fact, Russell thereby intended to tame his rough animal - the main theoretical concept of his opponents (as also of the opponents of English empiricism) - the concept of essence, which, he considered, makes one lose the way and plunge into fruitless and dark discussions.

Russell, however, as one must have expected, was confronted not with facts in the actual meaning of the word, but rather with 'facts as stubborn things', viz. with the fact that in the natural language there are names, some of which denote what Russell called fact in his own understanding: for example, Sun, Caesar, Rubicon, crossing, toothache, etc. In Russell's theory, there should be no place for names as linguistic symbols for facts, but the natural language had such names. Naturally, the creator of the theory wanted to get out of this difficulty.

And indeed, in his work of 1940, *Investigations about Meaning and Truth* (William James lectures of 1940, delivered at the Harvard University), this question is directly raised. (It must be said beforehand that Russell distinguishes between two main terms: name and relation. He understands relation as the very essence of a sentence - the structure of the predicate.) And thus, the question arose: "Can we invent a language without the distinction of names and relations?" [Russell 1980, 94].

And Russell answers frankly: "On this issue I have little to say. Perhaps it is possible to invent a language without names, but, as far as I am concerned, I am absolutely not in a position to imagine such a language. Of

course, this is not the final argument, unless in a subjective treatment: it puts an end to my capacity to discuss the issue." But the issue still remains, and Russell continues:

"However, my task includes the presentation of a point of view, which may, at first glance, appear to tantamount to the elimination of names. I propose to eliminate what is usually called particulars, and to be satisfied with certain words, which are usually considered universals, such as 'red', 'blue', 'hard', 'soft', etc. These words, as I see it, are names in the syntactic sense. Thus, I shall attempt not to repeal names, but to give an unusual extension to the term name" [Russell 1980, 94-95].

An example of interpreting a 'name in a syntactic sense' is the Russellian analysis of a sentence of the type 'This is red', which he treats as being equivalent to 'Red is here'.

And thus, summarising and in a somewhat simplified manner, it can be said that in Russell's theory from the 1920-s to the 1940-s (although not without changes, and, although with refinements), the following picture emerges: the world consists not of 'things', but of 'events' or 'facts'; 'events' or 'facts' exist objectively, hence a compliance with them makes utterances (propositions) true, and non-compliance makes them false; one should strive (in scientific theory) to present 'events' or 'facts' in a 'minimised' form, as 'shortest portions of space-time'; the most adequate linguistic expression for fact is not a name, but an atomic sentence (proposition). Example: Caesar as a proper noun entails a misunderstanding - the idea about a certain entity (Russell is decisively opposed to the concept of entity), whereas the analysis should, in accordance with Russell's theory, lead us to the conviction that 'Caesar' is a series of 'portions of space-time' - 'Caesar at the given moment', 'Caesar yesterday', 'Caesar, while crossing the Rubicon', etc.

(2) For fact, a linguistic symbol does not constitute a sentence (proposition). Between this assertion, which opposes what was mentioned in the preceding section, and the latter, one could, apparently, establish a series of intermediate positions belonging to various researchers, which would gradually lead to the given one. But, we shall immediately take up the final result - that very result, which is expressed above in the given form. Once again summarising, and somewhat simplifying, this result ought to be linked to the brilliant work of Zeno Vendler, *Causal Relations* [Vendler 1967];

Rus. tr. [Vendler 1986]. It turned out to be the finishing link of a whole chain of American studies; in particular, it was a direct reply to the work of D. Davidson (see [Davidson 1986]).

As the title itself indicates, Vendler in his article examines first of all the concept of cause, but the way to solving the issue is through establishing what are facts. Vendler's final conclusion reads: "Causes are facts, and not events" [Vendler 1986, 270, 275].

At first glance, it may appear that Vendler understands fact in the same way as does Russell. Some sections of his article force the reader to conclude that Vendler himself thought so or, in any case, did not pay attention to any significant difference. Thus, for example, in Section III (p. 273 - from now on, we refer to the pages of the Rus. tr.), he says: "What is affirmed may be a fact, but somebody's assertion cannot be a fact, as it can only correspond to a fact". Compare this with Russell's view: my toothache is a fact. If I affirm something, then the act of my affirmation is a fact" etc. (see above). This difference is very important; if we analyse it (we omit here such an analysis), we will come, apparently, to the conclusion that the theories of Russell and Vendler are not radically different, but, rather, the latter is a significant development on the former, and the development lies first of all in the discovery of a new category - the category of fact.

Another most significant difference is in the distinction made between event and fact. This difference becomes clear first of all through the use of the corresponding words in the natural language. (Here, Vendler shares the principal conviction of Russell: observations over language can help us understand how the world is set up.) To be specific: the word 'fact' (more specifically, the word 'fact' in the English language) has a completely different combinability, compared to the word 'event' ('event' in the English language), though their combinability (distribution) is common to some extent: the word 'fact' and words similar to it are subject to the same restrictions on combinability as are partially nominalised groups, whereas the combinability restrictions on the word 'event' (and words related to it) coincide with the restrictions that are characteristic to fully nominalised groups. Thus, for instance, the group *That he sang the song* and the group *His having sung the song* are facts, but not events, whereas the group *His beautiful singing of the song* is an event, but not a fact (p. 269-270).

To Vendler's examples, one may add examples from other languages, say, from French: *Qu'il ait chanté cette chanson, est invraisemblable* -

"(The statement) that he sang this song is unbelievable". Here, the incompleteness of the nominalisation is expressed using the irreal mood in place of the real mood - the indicative. The same is expressed in Russian language in quite a similar manner, but variations are possible:

Чтo он пел эту пeчeнькy , - НeвepOЯмнO.

"That he sang this song is unbelievable";

Чтo бyдeт он пел эту пeчeнькy , - НeвepOЯмнO.

"That he would have sung this song is unbelievable".

The second variation is completely analogous to the French one. (We shall return a little later to a subtle distinction that becomes evident in connection with these examples.)

And thus, facts are those, for which the most adequate form is an incomplete - and which cannot be complete in principle - nominalisation of the sentence-utterance. In contrast to facts, the most adequate linguistic form for an event happens to be a sentence-utterance or its complete nominalisation. Nominalisation itself is an occasional name. Thus, the linguistic form for fact is something that stands halfway, intermediate between the name on the one hand and the sentence (proposition, utterance) on the other.

It is not surprising that this specific linguistic form corresponds to a specific content. Vendler expresses this very well in the following passage (let us remind that "causes are facts, not events"):

".... If causes, like results, are events, then why is it impossible even to imagine that causes progressed or took place, that they commenced at a certain time, continued for such-and-such period, and suddenly came to an end? Why cannot a single wise man observe or listen to causes, why cannot a single scientist gaze at them through a telescope or register them by means of a seismograph..." etc. (p. 271).

And Vendler concludes: "I can only request logicians to legitimise the existence of facts, by including fact in the list of those units, with which they operate" (p. 276).

Let us now return to the above-mentioned Russian and French examples, examining them as one and the same type of expressions. The linguistic expression 'That he sang this song' (or 'That he would have sung

this song', or its French equivalent), specifically in the syntactic position given above (i.e. so that the given expression is followed by a certain frame - an expression of affirmation, doubt and so on), happens to be an expression of fact. But, the following part of the complex sentence taken as a whole, i.e. '.... unbelievable', '.... is unbelievable' or even '.... is false', either confirms this fact, or subjects it to doubt, or, finally, even refutes it. Thus, in the last case, we get an expression that is absurd at first glance (in any case, paradoxical): "This fact is false".

Vendler sensed this very well.

"In English, there is no word for denoting a 'fact-like' entity, which is the result of such abstraction. After all, one cannot say that the subject of your affirmation is a 'false' fact! The need is felt for such a generic term, denoting the unity of referentially equivalent propositions irrespective of whether they are true or false, but I am unable to choose an acceptable term" [Vendler 1986, 274].

However, from this point onwards, Vendler's discussion, I think, took off on too complicated a path, fraught with vagueness and even mistakes. And the reason for that is the English language. In English, as we have seen above through examples given by Vendler himself, the most adequate form of expressing a fact happens to be a certain variety (a certain class) of forms ending in *-ing*, but English rarely uses expressions that are similar to the Russian expressions mentioned above, and, it has nothing analogous to the French ones: in French, the factness is expressed by the neutralisation of the moods - by removing the expression from the sphere of reality and thereby transferring it into a purely imaginary, mental world. Based on the Russian and French forms, we straightaway come to the final conclusion: what serves as the most adequate form for fact is the predicative bond of two phenomena (of the subject and its predicate), expressed in accordance with the system of the language, but without any correlation with the material reality in time, i.e. before the affirmation or the negation. The French philosophers of language in the 1970-s aptly expressed this (in another system of discussions) in the thesis, or aphorism, "L'inasserté précède et domine l'asserté" - "The unasserted precedes and dominates the asserted".

But, it is verily this that happens to be the definition of a proposition. "With regard to this, there arises a very complicated question: what is the difference between facts and proposition?", notes Vendler [ibid, 272]. And

he gives a reply that is reliable in essence, but very complicated (induced by the English language): "facts are referentially transparent, while propositions, even the true ones, are referentially opaque" [ibid, 272].

And here is his final definition (which we first quote in English):

"As propositions are the result of an abstraction from the variety of periphrastic forms, so facts are the result of a further abstraction from the variety of equivalent referring expressions. A fact, then, is an abstract entity which indiscriminately contains a set of referentially equivalent true propositions" [Vendler, 1967, 711].

The Russian translation (ours, and, somewhat different from the published one):

"Just as propositions are an abstraction of a set of periphrastic forms, facts too are a further abstraction from a set of referentially equivalent expressions. Thus, a fact is an abstract entity, which corresponds to a concrete class of referentially equivalent true propositions".

(This definition, obviously, is analogous to the definition of the phoneme: a phoneme is a class of equivalent concrete sound-types - allophones.)

But, the French and the Russian languages, it appears, facilitate achieving this definition through a simpler path and more convincingly.

Indeed, if 'That he sang this song' is an expression of an abstract entity - proposition, but at the same time also an expression of fact, and if one and the same linguistic expression may remain a proposition in the two utterances, viz.

(a) ЧТО ОН пел эту песню , - ЭТО ИСТИНА (правда, факт)

"That he sang this song is true (is the truth, is a fact);

(b) ЧТО ОН пел эту песню , - ЭТО ЛОЖЬ

"That he sang this song is false",

but happens to be an expression of fact in only one of them (in "a"), then it follows that the utterances "a" and "b" are incompatible within the framework of one and the same discussion, i.e. within the framework of usage of one and the same language (in the instant case, of Russian) in one

and the same system of discussions, in one and the same text. Thus, a fact is a proposition, which is true within the framework of one given text, which in turn is a special case of usage of a certain language, a special 'sub-language' or, as we said above [1], a discourse.

Usually, in connection with such discussions (which are absolutely justified) about facts, mention is made of the concept of cause and the well-known example of Sophocles' tragedy, *King Oedipus*, is given. The reason for Oedipus' tragedy is investigated: whether the cause for his tragedy is that he married a woman by name Jocasta (who was in fact his own mother, but Oedipus did not know about it), or is it that he married his own mother. We arrive at the answer (which is different from Vendler's), by following the path outlined above. The expression "Oedipus married a woman by name Jocasta" belongs to the world of Oedipus and to the Greek language, and, simultaneously, to the sub-language of this language, used by Oedipus and those around him. As far as the expression "Oedipus married his own mother" is concerned, it too belongs to the Greek language, but to a different world - the world of 'universal, all-encompassing knowledge', available to Gods, but not to Oedipus and those near him, and this is a different sub-language of the Greek language. In Oedipus' language (in his sub-language), this expression is totally bereft of any sense. Oedipus' tragedy commences at that moment when this expression suddenly moves over from its own world to the world of universal knowledge. The first of the mentioned expressions happens to be an 'expression of fact' (or: 'expression for fact') in another language. But, both the expressions belong to the Greek language and express, in Greek, equivalent propositions. (We shall return to the concept of Cause below, in section 3.)

And thus, a fact is the result of the representation of a certain real state of affairs in the system of the given language, while at the same time it is necessary to understand language as detailed above. There are no facts outside the world, but there are also no facts outside the language, which describes the given world.

But, thereby, all linguists and philosophers of language have the right to say that a new category has been discovered - "fact".

"I fully support the presumption of Davidson that events should be ascribed to the primary elements of ontology of causal relations. At the same time, I would also like to take the next step in these metaphysical constructions, by adding to the primary elements

one more, viz. fact. The linguistic expression of causal relations, like many other linguistic fields, forces the presumption that facts too, along with objects and events, constitute a primary category of our natural Ontology. To many of us, accustomed to unadorned desert landscapes, such a multiplicity of primary elements may appear repulsive. Unfortunately, a jungle is a jungle, whether we like it or not" [Vendler 1986, 264].

In conclusion, let us remind, in which set of categories the category of fact outlined thus would be included. Of course, not in the set of categories of Kant. The category of Fact continues the set of linguo-logical, or linguo-philosophical, Categories of Aristotle. Here is this set (with the modern Russian translation in the left column, and the traditional Latin translation from Ancient Greek in the right column):

1. СущНОСТЬ (сущЕСТАНАН) "Essence (substance)"	<i>Substantia</i>
2. КоличЕСТВО "Quantity"	<i>Quantitas</i>
3. КачЕСТВО "Quality"	<i>Qualitas</i>
4. ОТНОШЕНИЕ (СОТНЕСЕННОЕ) "Relation (Related)"	<i>Relatio</i>
5. Где? (МЕСТО) "Where? (Place)"	<i>Ubi</i>
6. Когда? (ВРЕМЯ) "When? (Time)"	<i>Quando</i>
7. ПолоЖЕНИЕ "Position"	<i>Situs</i>
8. ОбладАНИЕ (СОТОНЕНИЕ) "Possession (Condition)"	<i>Habitus</i>
9. ДейСТВИЕ "Action"	<i>Actio</i>
10. ИспРепРеваНИЕ (СТРАДАНИЕ) "Experience (Suffering)"	<i>Passio</i>

And now we complete this list:

11. фАКТ "Fact"	<i>Factum</i>
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(An analysis of the ten Categories of Aristotle in a linguo-philosophical light can be found in Stepanov [1981]).

3. The Concept of Cause and the Causality Principle

In this section of our article, we will be talking about the concept of cause and causality not in the material sense, but about how people, including scientists, understand cause, i.e. about the concept of Cause. We shall make an attempt - though briefly and summarisingly - to show that this

understanding is in all respects connected with language. It is connected with language, first and foremost, in a manner that the speakers and those discussing the cause are unaware of the connection, simply because their deliberations go on within the framework of language. But, it is connected with language in a certain deeper sense too - in the sense that, in language as a system, to be more precise, in discourse as a system, the state of affairs has made available that model, which turns out to be useful for understanding causality in the other fields of the world and in science itself. And this time, our discussion is about the understanding of causality by scientists themselves, within the framework of a scientific discussion. Let us begin with the second aspect. In all cases here, as in the preceding section, we will be 'marking out' our discussion with certain questions or assertions.

The general scientific background, on which the discussions of and deliberations about the concept of causality proceed, was marked, by the end of the 20th century, by two positions: firstly, the discovery of essential (i.e. identical in this respect to causal), but non-temporal synchronic bonds of two phenomena; secondly, a deep understanding of the asymmetry of cause and consequence as two phenomena or events, connected by temporal relations. Let us take up these two in more detail, each time paying special attention to their connections with the understanding of language.

(1) There are synchronic (non-temporal) essential bonds between two phenomena (events). Would they be causal? The statement of such, extra-temporal, bonds has come about with the general understanding of systems and scientific law within the framework of the systems. Apparently, one of the first to formulate this condition succinctly was the linguist F. de Saussure. In his *Course of General Linguistics*, and verily applicable to language, he stated as follows. Within the framework of a system (or, generally, systems), there are laws of two different kinds. The diachronic (valid in time) law is imperative, but not universal; it connects a group of facts or, more precisely, only two facts, one of which is a cause and the other the consequence. (If we are to talk about a group of facts, then it can be broken up into pairs exactly in such a manner.) An example of such a law in the system of the proto-Slavic language is the conversion - under specific phonetic conditions of distribution within the word and in the given period of time - of the sound-type [x] (voiceless velar fricative) into the sound-type [ɟ] (voiceless palatal fricative): *yxо* [u.xɔ] "ear" → *ywu* [u.ɟi] "ears" (instead of *yxu* [u.xi]). Not every [x], and not under all conditions in the proto-Slavic language of that time, changes into [ɟ].

A law of the second kind, the synchronic law, on the other hand, is universal, but not imperative. An example of such a law, according to de

Saussure, can be the statement: *ВдaHHOM caдy зce дeпeз бЯ нocaжeHбl KOчIMy пЯ дaMu* "In the (given) garden, all the trees have been planted in oblique rows". It is exactly this kind of a law that is characteristic for systems; strictly speaking, a system is really formed on the strength of such laws.

Although it was F. de Saussure's formulations that became the most famous, in any case in humanities and in the sphere of methodology of science, it must be said that (this did not receive attention) this distinction was almost verbatim formulated by Auguste Comte in vol. IV of his *Course of Positive Philosophy* (1830), under the title *The Dogmatic Part of Social Philosophy*. F. de Saussure borrowed these postulates without acknowledging. Thus, - and it is not surprising - the distinction between two kinds of laws owes itself to the emergence of positivism, and, actually, it is the expression of the very essence of positivism and of its serious attention to the problem of causality.

(This understanding of a scientific law and of the causality principle is studied in detail in the works: *The Principle of Determinism in Modern Linguistics* [Yu.S. Stepanov 1970] and *'Law' and 'Antinomy' in Humanities. From Descartes to Florenskĭ and Losev* [Yu.S. Stepanov 1991].

(2) **Asymmetry of cause and consequence.** Since the concept of time in synchronic essential bonds, by very definition, is irrelevant, the causality principle came to be studied outside time. One of the brightest achievements in this field is the thesis about the asymmetry of the categories of cause and consequence, studied and founded by G.H. von Wright. We refer to his work, *Explanation and Understanding* (1971), ch. II. The author's own summary of section 3 of this chapter reads: "Asymmetry of cause and consequence. This asymmetry should not be interpreted merely in terms of a temporal relation. The possibility of retroactive causality" [von Wright 1986, 70 onwards]. While concluding the present section, we shall return to von Wright's ideas. For the present, let us make a digression - let us present a certain logico-linguistic essay on the expression of causality in language.

For readers, who are not linguists (for philosophers, methodologists of science), it may appear uninteresting. Quite possible. But, we will merely stress that in the book mentioned above (p. 107-114), G.H. von Wright carries out an almost analogous discussion - on purely philosophical material. Our essay will deal with the dispute between two well-known linguists, K. Brugmann and E. Benveniste (dispute, so to say, in absentia, because by the

time E. Benveniste wrote his work, K. Brugmann was already long in the other world).

Benveniste [Benveniste 1974] notes incongruities in the interpretation by various researchers of the meanings of the preposition *prae*. In the spatial meaning, this preposition means "before". If we consider (as does K. Brugmann) that the causal meaning of this word originates from the more concrete spatial one, then we arrive at, considers Benveniste, an obvious paradox. Indeed, then, for instance, a Latin expression from Plaut like *prae laetitia lacrimae prosiliunt mihi* (Plaut. Stich. 446) "(it is) out of happiness (that) my tears are appearing" should have literally meant "before happiness tears are appearing", i.e. not "happiness is the cause of tears", but the other way round: "tears are the cause of happiness". (We shall take up this paradox separately later.) In the meanwhile, Benveniste, having stated the paradox, refutes all inferences of Brugmann, and goes on to construct his own analysis through a different methodology - the so-called sub-logical approach.

Benveniste outlines a certain field of usage for the two prepositions *prae* and *prō*, which are similar in meaning and form. Then he states the semantics that is common to both the prepositions and their differential feature. What is common is: 'in front, in the frontal part of a space'; the differential feature is: for *prō* - 'in isolation from the remaining part of this space', i.e. 'in front' itself; for *prae* - 'without isolating from the remaining part of space (the object is taken to be continuous)', i.e. 'on the edge, at the boundary of the given space'. It is exactly this meaning, which explains all cases of the type *prae laetitia* "out of happiness", "at the boundary of happiness", as also all cases of comparative meaning (which earlier seemed to be exceptions) like the sentence from Caesar, *Gallis prae magnitudine corporum suorum brevitudo nostra contemptui est* (B. G. II, 30, 4). "For the Gauls, (in view of) in comparison with their tall stature, our short stature arouses contempt". Moreover, during comparison, the preposition *prae* is combined with that word out of the two, which expresses a higher degree of some quality in comparison with the other. Cf. also: *prae te pithecum est* "in comparison with you (she) is a monkey" (also from Plaut).

Thus, according to Benveniste, the meaning of cause of the preposition *prae* is, in reality, an abstraction from its initial meaning, but both the initial meaning and the abstraction are of a nature different from what K. Brugmann contended. The causal usage of this preposition is subject to rigid conditions: 1) along with the causal *prae*, there always occurs a word

that denotes some kind of feeling (happiness, fear, terror, sadness, tiredness), i.e. the abstraction progresses from the spatial meaning first to the field of feelings and, in this field, to the causal meaning; 2) this feeling always exerts an influence on the subject of the verbal action, i.e. the cause and the result are enclosed in one and the same person, in the subject, and it is thus that the feature of continuity, inherent in the spatial meaning too, is preserved; 3) in these conditions, the preposition *prae* always expresses only 'the extreme reason, the limit' of the feeling (which is intrinsic to the spatial meaning too); 4) from here, the abstraction proceeds naturally to the field of comparison and, while doing so, the preposition is supplied with the name of the thing or the property that corresponds to the greater of the two magnitudes being compared.

Let us now return to the paradox connected with Brugmann's interpretation. Indeed, in this interpretation, there is no intermediate link, owing to which Brugmann's argument appears - but only appears - to be paradoxical. In other words, Brugmann is not completely right, but Benveniste too is not right with respect to Brugmann. The intermediate link in the discussion is that, during the transfer of spatial relations into temporal ones (and the temporal ones precede the transfer to the concept of cause), the relation before in a certain sense turns out to be a reverse relation. Indeed, the expression "(The object) B is situated before (the object) A" means that there exists A, in which the speaker (observer, a third party) distinguishes 'front' and 'back', and that the object B is situated in front of object A. It is obvious that in this spatial representation, the point of reckoning for the speaker (observer) is the object A.

Let us now imagine that the situation has changed: the state of rest is gone and the objects have gone into motion. Since the point of reckoning is A, it is A that moves first; when A is already in motion - let us say, it has appeared in the field of vision of the observer - B is still not here; it will appear second. In the temporal sense - and time is always connected with movement - B will still only be the future, while A is already the present. Let us compare the Russian expressions with the preposition-prefix *пред* // *перед* "pre-", which very well corresponds to what has just been argued: in a state of rest, "B stands before A" = "B pre-stands A" (cf. *Ancient Rus. ПредСТОѡщеТѣ жеМы НѣКТО КраСеНѣ* [Sreznevsky. Dictionary, II, entry 1640]); in a state of movement in time, "B pre-stands A" = "B is future with respect to A". Let us also compare with this the following: *пред-вечемъ оѡ amb* "walk in (the) front", *предвечемъ ѡ уѡуѡуѡуѡ*, *предвѣдѡуѡуѡуѡ* - in the temporal sense they mean "one that already passed by with respect to

that object, about which the statement is being made". Thus, the meanings *предстоящий* "forthcoming / impending" (future) and *предшествующий* "preceding / previous" are opposites. But, the contrast is explained, apparently, not by two opposite meanings of a separately taken preposition-prefix *перед*, but otherwise: in the first case (*предстоящий*), the entire situation of spatial distribution is transferred onto the time plane - two actors (objects) and the relations of *перед* "front" between them; in the second case (*предшествующий*), only the predicate *идти перед* "walk in front" is moved into the temporal plane. To this corresponds the difference in transformations: 1. *стоять перед* "is standing in front" → *предстоять* "is impending" → *пред-стоящий* "the impending"; 2. *идет перед* "is walking in front" → *пред-идет* (such a lexeme is absent in Russian) "is fore-walking" → *предшествующий* "the preceding". Their difference points to an additional nuance: *предидущий* "preceding" means, apparently, not "the one walking in the front" (i.e., let us stress once again, the situation of state of rest of the two actors and the predicate is not transferred to the temporal plane), but has a different meaning: "the one marching forward". The meaning of Rus. *перед* and *пред* and Lat. *prae* is static. To this corresponds a lexeme, so fundamental for the Latin language: *praesēns* "the one situated in front of the eyes, here, present".

Benveniste noted one more significant speciality of the preposition *prae* in the causal meaning: it denotes a cause only in the sphere of feelings. But, he did not mention another, no less important, peculiarity of this preposition: it always denotes a hindering cause and so is usually used in negative sentences.

And thus, if we were to consider causal prepositions, then in Latin, we have the following field of causality:

1. *prae*: a cause that lies in the sphere of feelings and is an obstructing cause (predicate with negation): *prae lacrimīs loquī nōn possum* "due to tears I cannot speak".
2. *prō*: only in the compound form *propter* (*prō* + *p(e)* + *ter*), where *pe-* is the emphatic particle and *ter-* is the suffix of the adverb-preposition; the cause may relate to the material as well as the mental sphere: *propter frīgōra frūmenta in agrīs mātūra nōn erant* "Due to the cold, the grains in the fields did not mature"; *propter tūm in mē amōrem cōnfidit* "Thanks to your love for me, he trusts".

3. *ob*: in the primary meaning "before", in the causal meaning in a restricted number of combinations: *ob metum* "out of fear", *ob eam rem* "for this reason", *ob eam causam* "also"; sometimes has the meaning of "purposeful reason" (corresponding to Rus. *paðu* "for the sake of"); *ob ream* "for the sake of the business, in the interests of business".
4. *causā*: in different fields, since the word itself means "cause" and thereby preserves a clear internal form; also in the role of "purposeful reason": *commōdī suī causā* "for the sake of one's own gain".
5. *grātiā*: in the meaning of purposeful reason; insofar as the word itself means "kindness", the sphere of its usage is usually "people" or abstract moral concepts: *grātiā* also overlaps with *causā*: *commōdī suī grātiā* (*causā*); (the group of synonymous prepositions *causā*, *grātiā* and *ergō*, which function in a single subject field, should be semantically considered one preposition in three different lexical forms).
6. *ergō*: usually in the sphere of abstract moral concepts, hence in an undivided meaning of cause and "purposeful cause": *nōminis ergō* "for the sake of (good) name", *victōriae ergō* "for the sake of victory"; naturally, overlaps with *causā* and *grātiā*.
7. *ab*: in the primary meaning denotes the initial point, but later means the active force, the agent of the verbal action, and, finally, introduces the agent in the passive construction; the following three groups of examples correspond, in general, to these chronological strata of meanings of *ab*: 1) *doleo ab animo*, *doleo ab oculis*, *doleo ab aegritudine* (Plaut. Ci. 60) "I am suffering from pain in the heart (lit. due to heart), from eye, from illness"; 2) *calescit (anima) primum ab ipso spiritu* (Cic. Nat. deor. 2, 138) "the air is heating up first due to breathing itself"; 3) *superamur a bestīs* (Cic. Fi. 2, 111) "we have been surpassed by animals".

Thus, the sublogical analysis leads to the following conclusion. In Latin, the 'field of causality', which is being served by several prepositions, falls apart into a number of spheres, which hardly overlap and which can be naturally likened to subject fields, or fields of determination of the function of causality; each of these fields is serviced, in general, by any one preposition, which can be equally naturally likened to the means for expressing the function of causality, or to a functor.

A notable fact here is the breaking up of a seemingly singular sphere of causality into several subject fields. An unexpected consequence of this

observation is that the notion entertained by linguists, that the category of causality develops through abstraction in the sequence "space (place)" → "time" → "cause", does not conform to facts. It is a fact (at least for the history of the Latin language) that the category of cause originates, possibly simultaneously and in parallel, in several different subject fields, by means of abstractions of various kinds in each of these fields. (We saw how complex and how peculiar is the abstraction that leads to the causal meaning of the preposition *prae*.)

It is natural to compare this result with the result - which we will be discussing below - obtained in the course of a logical analysis of language: causes are not events, but facts, correlative not to the entire universum of language, but each time to some fragment (to a sub-language), which in turn is subject to restrictions of specific logico-linguistic conditions - restrictions of the discourse.

(3) Causes are facts, not events. As we already said, the evolution of the concept of cause has been progressing uninterrupted from Aristotle's times to ours. In the course of this long historical journey, it went on acquiring not one but several brilliant and deeply thought-out definitions at various stages of development. This circumstance makes it possible to trace its evolution relatively easily. But, a question arises simultaneously: is it only the opinion of people concerning what happens to be cause, i.e. the concept of cause itself, that is evolving? Or, in addition, is the language framework too evolving - language, with the help of which and by means of which the formation of the concept gets carried out? And, if it is so, then does not the concept of cause depend in the final analysis on language, which is used for establishing it? We suppose that things stand exactly that way and that the concept of cause is closely connected with the concept of discourse.

Let us begin with an essay on the evolution. Vladimir Kraevsky (in 1963) [see Kraevsky 1967] summarised very well a significant part of this history, using the following method: he classified the concepts of cause according to the terms, among which a causal relation can be established. Thus, his classification has nothing to do with the actual, or internal, content of the concept of Cause, but that is why it could succeed. (Expressing semi-otically, or linguistically, it may be said that Kraevsky's classification is based on a distributive analysis, analogous to what is used in descriptive linguistics, when the meaning of a word is described in terms of its mutual combinability with other words.) In so doing, the evolution of the concept of Cause appears as follows:

1. A thing is the cause of a thing (Aristotle);
2. A thing is the cause of an event (Aristotle; Foma Acquinas);
3. A property is the cause of an event (Galilei; Newton);
4. A property is the cause of a property (Hobbes; Locke);
5. A state is the cause of a state (Laplace; modern physics);
6. An event is the cause of an event (Hume; modern philosophy);

Zeno Vendler's work (1967) marked a new turning point. His formulation sounds like an aphorism: "Causes are facts, not events". And thus,

7. A fact is the cause of an event.

Let us now devote some space for a kind of digression for examples.

The concept "A thing is a thing", according to which a thing is considered the cause for another thing, was expressed as long ago as in Aristotle's work [*Metaphysics*, book V, ch. II]: sculptor - cause of sculpture; father - cause of child, and so on. One may classify under this concept another kind of cause indicated by Aristotle - the content of the thing, the material, from which it originates: copper - cause of sculpture, silver - cause of cup. (In all, Aristotle has four kinds of causes. The third is: form in relation to matter; the fourth: purposeful cause, hence cause is aim.) The concept "A thing is a thing" turned out to be effective for everyday, practical knowledge. Suffice it to say that the words denoting 'thing' in all romance languages - Fr. chose, Sp. cosa, It. cosa etc. - go back to the Latin *causa* "cause", "court case". In contrast, 'person' as the cause of something is just not studied as a typical cause in the subsequent historic development of the concept of cause, but is placed in a special category (even the qualifier 'object' may be applied to the person only with great reservations). But, in the Aristotelian understanding of person as cause, there is a significant component - the functioning cause. This component was identified in the subsequent conceptual analysis, in medieval scholastics, and is still preserved in one form or another in the concept of cause even in our times. The only philosophy, in which the causality concept "A thing is a thing" is preserved in our times with the inclusion of the subject, the agent of the action, in the concept of 'thing', is Thomism, insofar as one of the principal assertions of Thomism states: God is the cause of the world.

The concept "A thing is an event" too is represented in the ancient world itself, specifically, in Aristotle's work. Subsequently, we find it in the studies of Foma Acquinas, Holbach, Hegel, Herbart, Sigwart, Windelband

and many others. Some German philosophers founded this concept etymologically, insofar as the German word *Ursache* "cause" literally means "proto-subject, proto-thing", while *Wirkung* "consequence" means simultaneously both "consequence, result" and "action". To these remarks of Kraevsky, one may add that similar ideas were quite widespread in the middle of the 20th century. At the First International Congress on Philosophy of Science (Paris, 1935), one of the papers had just such a title: *Verbal Prefixes in the Indo-European Language and their Influence on Logic*. Basing on the prevalent idea that the foundations of philosophy originate in the depths of language, the author of that paper asserted, among other things:

"The connection between the German prefix *auf* (in *aufheben*) and Hegel's logic: we have every reason to consider that the German romantic thinking would never have come to an end with Hegel's logic, in which there functions the principle of oppositions with the subsequent elimination of antagonistic concepts, if the German language did not have a special term, *aufheben*, which simultaneously denotes 'repeal' and 'surpass'."

It is an undoubted fact that the French philosophical thinking, not having such linguistic support, receives the idea of *Aufhebung* rarely, that too with reservations [Masson-Oursel 1936, 16-17]. In the 20th century, the concept "A thing is an event" gradually recedes to the background.

The concept "A property is an event" is widespread in classical mechanics, beginning with Galilei and Newton, if, as indicated by Vladimir Kraevsky, one were to bring under the concept of 'property' the concept of 'force'. Gradually, however, the concept of cause-force was replaced by the concepts of cause-condition and cause-event.

The concept "A property is a property" is traced to the philosophical teachings of T. Hobbes and J. Locke, but is rarely encountered in later doctrines. In Kraevsky's opinion, however, Lukasevic asserted in his work of 1907, *Analysis and construction of the concept of cause*, that, in fact, the causal relation binds together properties, and not events. Quite often in modern philosophy of science, one may come across the view that the concept of cause is related either to a property, or to an event.

The concept "A state is a state" in its classical form appears in the cosmogonic theory of P.S. Laplace, who wrote in his *Experiments on Philosophy of the Theory of Probabilities* (1814) that the present state of the Universe is a consequence of its preceding state and is the cause of its next

state. Modern physicists-theoreticians widely use such concepts, but, while doing so, they refer, however, not to the cause, but rather to the causality principle, which includes the definition of the state of an isolated system at the point of time t_1 and the state of this system at the moment t_2 , while the interval between t_1 and t_2 may be arbitrary. In Kraevsky's opinion, "the very question about the cause of the state is something strange, running counter to the skills of oral speech as well as those of the language of science. Many philosophers noted that we are enquiring about the cause of the event, the cause of the change in the state, but not about the cause of the very state itself".

The concept "An event is an event" has a classic representative in D. Hume, whose line is continued by J.S. Mill. In modern philosophy (apart from Thomism), until the advent of G.H. von Wright, the concept "an event is an event" was ruling almost unchanged. It was within the framework of this concept that the concepts of "carrier (of cause, of consequence)" and of "trace (of cause, of consequence)", which are so important for a semiotic approach, originated. If the things themselves are no more considered either as causes, or as consequences, then, like before, it is possible to say that there always exists a thing, which is the carrier of the cause, and a thing, which is the carrier of the consequence. Let us compare the semiotic concepts carrier of signal and trace of signal; for example, if winking happens to be the signal (sign) of something, then, the eye, the eyelid, the brow - the zone of the eye on the face - function as carriers of this signal (sign), as sign carriers.

Let us now turn to the last stage in the evolution of the concept of Cause, to precisely that, which turned out to be most closely connected with the understanding of language by scholars: "Causes are facts, not events".

The beginning of this period is connected, as we already noted above (see 2), with the name of Bertrand Russell. He was, apparently, the first to turn to the concept of fact for the solution to gnoseological and logico-philosophical issues - cf. his definition of fact above. Facts, thus, according to Russell, are "what makes our statements true or false". In this understanding, facts are something primary, while true statements (statements conforming to facts) are something secondary, and, in the final analysis, something derived from facts. After all, in order that statements and utterances could conform to a fact, the fact should already exist before the statement and the utterance, like, for example, an event. It is precisely this stand of Russell that cannot be accepted at present.

Vendler's distributive analysis (presented in an abridged form in section 2 above) showed that the distribution of the words 'fact' and 'event' in the English language is partially different. In addition, for facts there are special linguistic forms, the so-called incomplete nominalisations (they are present as in English, so also, in a less formalised set, in Russian). Thus, causes are facts, but not events, while consequences are events. Here, the asymmetry of cause and consequence, about which G.H. von Wright wrote in such detail, is substantiated from the linguistic standpoint too.

In a less specific form, the same conclusions are drawn by N.D. Arutyunova too:

"The idea that facts are primary, but statements made about them are secondary, is a mistake. A statement structures the reality in such a manner that it would be possible to establish whether it is true or false. Facts do not exist irrespective of statements. In this sense, a statement sets up a fact and not the other way round" [Arutyunova 1988, 153].

Among the stands taken by Vendler, most of which are formulated by him in a penetrating and brilliant manner, one seems to be inaccurate and contradictory. It is connected with the understanding of the very term and the phenomenon of fact. Since "Causes are facts", it would be sensible, for discussing the causes, to dwell on this in more detail. Vendler's stand is in relation to that context, where he discusses the tragedy of Oedipus.

"Oedipus knew that he married Jocasta. But he did not know that he married his own mother. All the same, in actual fact, Oedipus' marriage with Jocasta is equivalent to Oedipus' marriage with his own mother. Hence, if it is true that his tragedy was caused by the marriage with his own mother, then it should also be true that his tragedy was caused by his marriage with Jocasta. Indeed, contexts, which introduce the cause, unlike the contexts, which introduce the proposition (assertion, uttered by the sentence - Yu.S.), possess a referential transparency (i.e. it is clear, to which things and states of affairs they relate. - Yu.S.). Of course, in a typical case, causes are facts, and not just propositions. In this connection, a very complicated question arises as to what is the difference between a fact and a proposition. As the tragic example of Oedipus shows, it is not adequate to simply say that a fact is a true proposition. The essence of the difference is deeper: facts are referentially transparent, while

propositions, even the true ones, are referentially opaque" [Vendler 1986, 272].

And here, Vendler proposes the following definition for replying to the question raised (we have to repeat the passage, already quoted in 2):

"Just as propositions are an abstraction from a set of periphrastic forms (of various periphrases of one and the same assertion - Yu.S.), so also facts are a further abstraction from a set of referentially equivalent expressions. Thus, a fact is an abstract entity, corresponding to a concrete class of referentially equivalent true propositions".

In Vendler's opinion, the statement "Oedipus married Jocasta" is not a periphrasis of the statement "Oedipus married his own mother" (with which we are completely in agreement. - Yu.S.). "Therefore, they express different propositions, but state one and the same fact" [Vendler 1967, 711]. This is what we cannot agree with: fact is understood here in the Russellian sense, as something that precedes the statements!

Our comments are as follows. The two statements mentioned above are periphrases of each other, but do not state one and the same fact, because they do not belong to one and the same language (discourse), although both belong to one and the same ethnic language - the ancient Greek of Sophocles' time. The statement "Oedipus married Jocasta" belongs to the discourse of Oedipus, which describes the world of Oedipus. The statement "Oedipus married his own mother" belongs to the discourse of Sophocles and to the discourse of Vendler (though in the form of a different ethnic language - English, and also to our discourse, in the form of Russian); in the discourse of Oedipus, this statement is devoid of sense (it is not intelligent). The cause of the tragedy of Oedipus is not the fact that he married his own mother - such a fact simply does not exist. The cause of the tragedy of Oedipus is that Jocasta turns out to be his mother. But, this is a different fact, and its expression belongs to a different discourse. The concept of cause exists every time only within the framework of the specific language (discourse).

If we now turn to the other analyst, G.H. von Wright, we find in his work completely analogous discussion and conclusions, made without any relation to an analysis of language. Their value is indeed in this independence

of conclusions, obtained through two different ways. As in the case of Vendler's work, von Wright's work too is based on a long succession of preceding studies by numerous authors (they are all mentioned in von Wright's own expansive remarks).

von Wright ends ch. 2 of his work *Explanation and Understanding* (1971), with the following words - let us quote them in full:

"Insofar as the capability of man to accomplish various actions, if he decides, intends or wants to do them, is an empirical fact, man is, as the agent of the action, free to that extent. It would have been a mistake to assert that causality presumes freedom, insofar as it would have meant that the functioning of the laws of nature somehow depends on people. But it is not so. However, the assertion that causality presumes freedom appears to me to be acceptable in the sense that we arrive at the ideas of cause and consequence only through the idea of comprehending the result in our actions.

In the idea that causality 'threatens' freedom, there is a large fraction of empirical truth, the evidence for which is the occasional loss of ability and possibility to act. However, from a metaphysical point of view, this is an illusion. Such an illusion is generated by our characteristic tendency to consider - one may say, in the manner of Hume - that man in a state of absolute passivity, simply observing the regular consequence of events, can register causal connections and the chains of causally connected events, which he then extrapolates onto the whole Universe, from an indefinitely far away past to an unimaginably far away future. Such an understanding ignores the fact that causal bonds exist relative to the fragments of history of the world, which are closed systems in character (as per our delineation). In the identification of causal bonds, two aspects stand out - active and passive. The active component is: putting the systems in motion by means of producing their starting states. The passive component consists of observing what goes on inside the systems, to the extent it is possible without destroying them. A scientific experiment, one of the most subtle and logically thought-out inventions of human mind, constitutes a systematic combination of these two components" [von Wright 1986, 114] (emphasis mine - Yu.S.).

The fragments of the history of the world, which "are closed systems in character", are just the analogue of discourse, what is described by a

discourse. Causes, which are not events, but facts, are statements - within the framework of the discourse - of what goes on in a fragment of the world, which is a closed system in character, under conditions noted by von Wright.

Our conclusion will be very short. The causality principle, so important for science at the end of the 20th century like before, is connected in its new form with the category of fact, which in turn is connected with the phenomenon of discourse. But, discourse is a new feature in the appearance of Language, as it showed up before us towards the end of the 20th century. Thus, Language and Science are discovering anew their deep and far-from-merely-technical relations: Language is not at all merely the technology of Science.

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A HANDBOOK OF KERALA (Vol. 1)

T. Madhava Menon (Ed.), 2000, HB, Demy 1/4, pp. xii+373, Rs. 1,000/- (US\$ 125/-)

In its series of *handbooks* of various States in India, of the I.S.D.L., the two-volume set on Kerala by T. Madhava Menon (IAS Retd.), is now published. The first volume covers the physiography, geography and physical features of the State, its forests, fauna and flora, history, religion and economy. The prehistorical foundations of Kerala have been detailed by Prof. Rajendran. Because of the facilities available in the I.S.D.L., the section on history is based on a more intensive interpretation of Tamil sources. In the section on religion, folk belief-systems of the sociology of religious changes and the rituals of Hindu forms of worship have been described. The section contains articles on Buddhism, Jainism, Judaism, Christianity and Islam. There are articles on temple architecture, with illustrations. The section on economy contains contributions from some of the most eminent authors on this subject. The *Kerala Model*, out-migration, demographic transition and stagnation have also been analyzed.

A HANDBOOK OF KERALA (Vol. 2)

T. Madhava Menon (Ed.), 2002, HB, Demy 1/4, pp. xi+497+xxxiv, Rs. 1,500/- (US\$ 140/-)

The detailed and very attractive second volume covers arts, language and literature, places of interest and communities. The descriptions are based on field notes and other observations. No other volume on the progressive state has complete information on several areas which users in any field will find quite useful. One will be proud to own the copy.

SPEECH LEARNT ON ONE'S OWN VS SPEECH LEARNT AS TAUGHT: NATURE OF SPEECH VARIETIES DESCRIBED BY PAṆINI IN THE AṢṬADHYĀYI

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Abstract

Born in a family in any speech community, a child comes to acquire speech current in the family and around. He learns it on his own. It is not taught to him. He is not guided to follow any particular course in its acquisition. Rather, he is left alone. His unconscious efforts lead him to its acquisition. There is no authority to enforce any sort of uniformity in pronunciation, usage or diction. It may be called a child's native speech.

On the other hand, a child, later some time, is introduced to another speech variety, not necessarily related to his native speech. It is taught to him either by his parents at home or by a teacher in some academic institution. Conscious efforts are made at achieving uniformity of pronunciation and diction. Deviations in these respects on the part of the learning child are noticed and corrected. The child is practised into desired habits.

It may be pointed out that learning a second speech variety is not compulsory. There are no social and cultural considerations that a child must learn it. Some children in the community keep away from it.

In course of time, a child may come to acquire use of two varieties of speech: one, the native speech which each child in the community must learn on his own and the other variety that some children learn as taught to them.

In this context, we examine nature of speech varieties described by Pāṇini in the Aṣṭādhyāyī. There are two such varieties. One is called bhāṣā and the other comprises a group of speech varieties designated after genera of literature. In Pāṇini's times, these texts were studied and recited. Forms and structures of these varieties being frozen in literature, were fixed and invariant and forever.

There is ample evidence in the Aṣṭādhyāyī to show that bhāṣā was the speech variety that was taught to children who were well-established in the use

of their native speech. It was, thus, taught and learnt as second language. Obviously, it was nobody's native speech.

To assume bhāṣā was the native speech of a very small community of Brahmins, called śiṣṭa, is simple myth. It goes counter to the very concept of native speech. In any case, Pāṇini does not belong to the community of the śiṣṭa. The bhāṣā was his second language. And in the Aṣṭādhyāyī, there is no hint to indicate what possibly was his native speech.

I

Origin and development of human speech and formation and growth of human organizations seem to evolve simultaneously. Both are tied together as if inherently. One cannot be visualized to exist without the other. We cannot simply imagine a herd of human beings, deaf and dumb, moving about. Even human tribes that live naked on trees like monkeys in deep forests, far away from centres of culture and civilization, are found to employ their respective oral speech varieties. We may, thus, assert that it is speech, articulatory speech, that characterizes human species and provides firm basis of organization of humanity into distinct speech communities in the first instance.

II

A child born in a family in any speech community picks up on his own whatever speech variety is current there. Nobody seems to make any conscious efforts to help him learn it. His incoherent utterances, prattlings and babblings rather amuse the elders in the family. But he is left alone. His unconscious struggle continues. No attempt is made to guide him to acquire any sort of set standard in speech. In fact, no one in the speech community is regarded as a model speaker. Such a concept is conspicuous by its non-recognition. Everybody's speech is looked upon as equally authoritative. Thus, child's speech activities are considered just normal. And his speech is tacitly approved.

Linguistically and socially, it is a unique phenomenon. Even though there is absolute absence of any central authority to enforce uniformity of pronunciation and usage, all members of a speech community come to acquire through undirected efforts, a way of communication orally so efficient, smooth and orderly. The community comes to develop a perfectly harmonious and non-controversial system of oral communication.

Concluding we may, thus, assert that a child born in a family in a speech community acquires on his own full control and skill in the use of speech spoken in the family and around. It is not taught to him in any sense of the word. The system of speech he acquires is a perfect vehicle of self-expression and inter-communication, not subjected to any dictation or regulation, by any authority outside him. To produce and interpret utterances in his speech, he need not follow any grammatical treatise, manual of usage or lexicon, etc. All the desired information is stored internally in his mental make-up. It is, to say, a self-guided and self-propelled system that a child acquires. The speech thus acquired by the child may be called his *native speech* or *mother tongue* as known more popularly.

Children of immigrant families may be natively bilingual, using family speech in the family and neighbourhood speech of host community elsewhere.

Seldom such a native speech is provided with any symbolic representation in the form of writing, etc. Each generation comes to acquire it without any conscious efforts naturally by listening to others talk.

III

Native speech always in state of flux

Being expressed exclusively orally, speech has seeds of change like any other physical object. Moreover, there are no deliberate provisions not to let it change and keep it stable and invariant. New features of pronunciation and structure slip in surreptitiously. At lexical level, for instance, new items get entry in course of time and old ones go out of use, thus, dropped. Nothing stays stable and changeless for long in the ever-onrushing stream of native speech. As a means of day-to-day communication, thus, native speech is not fixed and invariant. Rather, it is always in a state of flux. However, in one's lifespan, he may not come to perceive much of these changes in concrete and visible form. The fact that native speech continues to change all the time becomes clear as we look at the history of a family, functional playground and usual habitat of speech.

One's family (and for that matter any family that thrives today) has been there from the very beginning of creation. And through all these ages, some speech variety has always been in use there. Membership in the family has not been constant. Old members leave and new members come in. Over

every few generations, membership of a family is completely replaced. However, the family as such continues to flourish, exist.

We may ask: what happens in speech that has been in use uninterruptedly in the family? Does speech also disappear along with the disappearance of speakers? No. Members constituting a family at different times may come and go but speech continues to function in the family through whomsoever composes it at various times. It is in this sense that its use in the family is without any break. At one time, for instance, members of my family, contemporary with seers who composed and recited *Rg-vedic* hymns, spoke a variety of speech akin to the one used in the hymns. Today, however, in the same family, I speak a variety of speech so far removed in form and structure from the ancient speech, although there has been no break in speech activity in the family during this long period of time.

How do we account for this situation? There is no escape but to admit that it is the very same speech variety current in the family in olden times that has changed into what I speak today. On the other hand, we are well aware that contemporary generations in a family at any stage of its history employ speech that appears the same to all intents and purposes. The grandfather (or great grandfather) communicates freely with his grandchildren. The speech in the family thus has not changed overnight. The change has been going on all the time. It is so gradual and imperceptible that it remains unnoticed by contemporary generations. It is after a lapse of several generations that changes in its make-up become visible. But there are no witnesses in the family to attest these changes. Human life is so short.

We discuss below an illustrative example to show how speech in a family continues to change during the course of its history.

IV

Illustrative example

My native speech is Haryani, an Indo-Aryan variety spoken currently in Haryana State, northwest of New Delhi.

Journey of speech in my family from generation to generation has not been a smooth sailing. It has had its ups and downs. It has rolled through peaks and valleys. It came into contact with other speech varieties and affected them, and in turn was influenced by them. Its present-day form

is, thus, shaped by its long history. However, from its current structure, there is no way to determine various stages of its evolution. Nonetheless, a careful probe into its present-day structure may reveal marks of traits it has passed through.

Consider the following items.

(a) *syaurām syaunāth syautāl syausing*
syaucanda syaukaraṇ syaunanda syaubaraṇa
syauunarānya syaubakas

(b) *sibalāl sibarām sibasing sibandhan*
sibananda sibanāth sibacaraṇ sibbā
sibbū sibanarānya

(All personal male names)

(c) *sivajī* 'Lord Shiva'

(d) *sivālā* 'a temple consecrated to Lord Shiva'

The native speaker feels intuitively that the first component in these items, viz. *syau*, *siba* and *siva* are semantically equivalent and refer to Lord Shiva. Sound features shared by them also lend support this postulation.

Since their distribution is not in complementation descriptively, it cannot be maintained that there are alternants of one of them. Undoubtedly, they are cognates. We propose that historically *siva* is the phonological shape of such an item from which all these forms could have been evolved.

For the sake of clarification, we may state here that in the present state of our inquiry, we cannot determine for sure which one of the three forms evolved prior to the others to demonstrate that we have to probe into overall orderly application of linguistic operations, phonological as well as morphological, that underlie evolution of the family speech into its present form.

In any case, it is obvious that explication of *syau*, *siba* and *siva* from *siva*, the basic form suggested here, would involve three different sets of phonological operations on *siva* to yield respective forms.

Evidently, three sets of operations cannot take place simultaneously. In explication of any phenomenon, two or more operations do not take

place at the same time on the same item. Nor can we apply two or more operations on the same item by turns. For instance, in the present case, once a set of phonological operations taking place on *śiva* reduce it to *syau* (*śiva* > *sio* > *syau*), the entry *śiva* is no longer available in the speech for any other operation since it has developed into *syau*. In a way, it has disappeared currently from usage.

We are indeed on the horns of a dilemma. On the one hand, we need presence of an item like *śiva* in the speech to proceed further to account for evolution of *siba* and *siva*. But, on the other hand, it is no longer current in the speech since it has melted into *syau* forever.

What is the way out?

Family speech, it may be pointed out, is an ongoing phenomenon. It is always on its way to change. There is, however, another style of speech called literary that runs parallel to it. Forms and structures in it are stable and invariant (except for regional variations). Sometime later after *śiva* had changed into *syau* in the family speech, our forefathers, for some reasons, borrowed the item *śiva* from the literary style. It was subjected to phonological operations active at that time in the family speech. It developed into *siba*.

And likewise for similar reasons, *śiva* was reintroduced in the family speech as part of the item *śivālaya* 'a temple dedicated to Lord Shiva'. Grammatical operations effective at that time transformed it into *sibālā*.

In explicating evolution of *syau*, *siba* and *siva* from the same item, viz. *śiva*, we have assumed that in the first instance, the item *śiva* was inherited in the family speech. Later, it was introduced and re-introduced from the literary variety that ran parallel to the family speech. Linguistic operations that changed *śiva* to *syau*, *siba* and *siva* relate to different periods of evolution of family speech.

In conclusion, it may be observed that it is primarily on the basis of scrutiny of structural patterns of present-day speech in the family that we are able to unearth layers of structures evolved in different periods of its history. In the example discussed above, basically it is internal evidence, marginally supported by evidence from contemporary literary speech, that allows us to trace back these fragments of historical developments of family speech. This proves the point that family speech is always on the way to its change.

Correlation with contemporaneous literary speech

Earlier history of development of an item in the family speech may be recovered on the basis of its correlation with contemporaneous literary speech.

There is a lexical item currently in use in my family speech, viz. *nyāṇā* meaning 'the rope tied around the hind legs of a cow while milking it'. Here *ā* is masculine singular marker. The nominal stem is, thus, *nyāṇ*; structurally, it is not susceptible to any segmentation. Nor is it correlated semantically with any other item in the family speech. At present, it stands as a unique item linguistically.

However, as we go over literary records running parallel to my family speech, we come across in the *Rgveda* an item, viz. *nidāna* (neuter). Literally, it signifies "means of tying something from *dā* 'to bind'". It is, thus, interpreted as 'a rope'. In the family speech, however, it comes to signify 'a rope that is used for a specific purpose' as given above.

Still, *nyāṇ* and *nidāna* seem to be unrelated linguistically.

In items exhibiting phonological structure as *nidāna*, a regular phonological process is noticed in ever-exchanging family speech. An intervocalic stop is dropped at some stage of its history. Thus, *nidāna* changed to *niāna*. And it is just another phonological operation, equally regular, that allows the vowel sequence *i-ā* to be realized as *yā*.

Maybe due to some analogical influence, dental nasal stop changes to retroflex one. And *nidāna* thus ends up as *nyāṇ* in course of its history in the family speech. Final *a* is dropped. And with addition of *ā*, masculine singular marker, it assumes the form in which it is currently in use.

Scores of such examples could be given.

Comparison of structures of contemporary present-day native varieties

There is yet another direction of investigation that can help us recover vestiges of historical development in my family speech.

A comparative study of native varieties of Indo-Aryan speech (to which my family speech belongs) current today may help us capture missing links in the development of my family speech.

I shall discuss here one example based on evidence from comparative study of my family speech and that of Punjabi, the neighbouring Indo-Aryan dialect.

An overall survey of present-day Haryani (to which my family speech belongs) and Punjabi suggests that, in very ancient times, the two varieties constituted one group. And to denote 'an ear', the expression *karna*, attested in the then-contemporary literary variety also, was current in the group. And through operation of a very common process of simplification of consonant clusters to account for historical change, the cluster *rn* was reduced to *nn*. Thus, *karna* changed to *kanṇa*.

And for reasons unknown, long retroflex nasal changed with dental long consonant *nn*.

After bifurcation of the group, each speech variety underwent different patterns of change. In Proto-Punjabi, the process of change stopped at that. Thus, the form *kanna* was realized as *kann* with the loss of final vowel. This is the form current in the Punjabi today.

On the other hand, the process of change continued in Haryani, my family speech. The long consonant in *kanna* was simplified, replacing *nn* by *n*. And, as a sort of compensation of this simplification, the preceding short *a* in *kanna* was lengthened. With the loss of final *a*, the evolutionary process came to an end. Thus, development of *kān* from *karna* may be depicted as follows:

karna → *kanṇa* → *kanna* → *kāna* → *kān*

It is thus comparison with present-day Punjabi structure that brings into full relief the process of change in my family speech. The missing link is traced back.

As no periodical written account of family speech is available, we cannot produce any direct evidence to show that family speech had been undergoing change all along the time. However, on the basis of linguistic information in the present-day family speech, we have discussed above three strategies to establish that it has been undergoing change continuously. We may recapitulate these here.

1. We have shown above how triplets (and doublets as well), sharing phonological and semantic features, have evolved from the same entity at different periods of time.

2. We have demonstrated that a form current in the present-day family speech is the end-product of an item whose currency in the family speech in earlier times is borne out by its attestation in the contemporary literary speech of these times.
3. We have discussed how comparison with structures in modern-day Indo-Aryan dialects bring out processes of historical change not explicitly demonstrable on the basis of information available in the family speech alone.

V

Before we proceed further, we would like to restate here what we mean by *native speech* and *speech community*.

Native speech is characterized by the following features.

- i. It is that faculty for communication through oral noise which a child, born in a family in a speech community, acquires on its own.
- ii. There are no model speakers for native speech whom a child is expected to follow.
- iii. Nor is there any central authority that watches the child's progress in acquisition of speech habits, providing any directions or enforces any sort of uniformity in its pronunciation, structural patterns, syntactic structures, lexical acquisition, etc.
- iv. In its form and structure, it is not constant and unchanging. It is rather always in a state of flux, yet it functions efficiently in the community from generation to generation.

By *speech community*, we mean any big or small group of families that are tied up closely in the matter of daily communication through a shared oral medium, viz. their native speech. It may comprise several social and professional groups.

Each group, it may be pointed out, makes use of expressions specific to its calling. Members outside such groups are familiar with only some of these usages which are of their interest. Rest are exclusive field of use in respective groups.

Total speech including expressions and usages peculiar to respective socio-professional groups, it is asserted, is not a conglomerate of expressions specific to each group and those shared by the whole speech community. Rather, speech in use among members of such groups is just one integrated variety, native to respective groups. And shared features by all groups again constitute an integral variety, native speech of the community as a whole. Thus, there are not as many distinct speech styles as there are socio-professional groups.

Speech used in whatever context in a speech community, i.e. among members of respective groups in no case can be regarded as a socio-linguistic phenomenon or a case of diaglossia. We may emphatically assert that there are no two or more codes (styles of speech) available to an individual speaker that he can willingly switch off from one to another. In its linguistic form and structure, it is the same style of speech he is making use of all the time and in all contexts. It may be sprinkled with socio-professional expressions and idioms in response to communication demands. We are, thus, inclined to labelling such a speech of a community, though comprising several socio-professional groups, its native speech or mother tongue.

VI

Regional varieties of native speech

A speech community may be small or large and may be spread out in geographical extent, far or near. It may comprise smaller or larger clusters of families woven into network of inter-relationships of diverse sorts. In its ultimate texture, a speech community is a complex socio-cultural structure.

Differences in speech in a community may emerge horizontally as well as vertically, i.e. along the axes of space and time. In the present context, consideration of horizontal differences is of greater interest for us.

Horizontally, with the spread of a community in geographical extent, there appear all along the line in continuum, linguistic features that are hardly noticeable at close quarters. As spatial gaps between two points enlarge, such differences do come into notice. However, such differences do not block intercommunication. Mutual intelligibility is the very breath of oral communication system. It remains intact even between speech varieties at distant points. Native speakers are conscious of distinct nature of such speech varieties and, accordingly, appropriate names are provided to them. In Haryani speech community, for instance, regional varieties are known as

Bangru, Bagri, Ahirwati, Mewati, Ambalvi, etc. All are mutually intelligible and, thus, in intercommunication, each speaker makes use of his respective speech variety.

VII

Rise of literary diction

A speech community in its origin derives its *raison de'tra* from its native speech. Organization and development of a community rests on it.

Primarily, native speech serves as a means of day-to-day intercommunication. With the growth of a community, native speech comes to play numerous other roles in its life. Lullabies are sung to babies to induce them to sleep. Children wait anxiously to listen to nightly stories from their grandmothers. On festive occasions, young ones dance and sing hilarious songs. On seasonal and religious festivals, young ladies sing songs befitting the occasion, in praise of gods and goddesses. Local and itinerant minstrels entertain the audience with their performances. On such occasions, poetical (metrical) compositions based on the legends of local heroes and mythological themes are presented. Local and regional religious and trade fares provide opportunities to young artists coming from far and near to entertain lay gatherings with wide-ranging performances accompanied with deep and sonorous sounds of musical instruments. At night, teams of gifted artists stage poetical dramatical performances. Community life is, thus, suffused with acts of speech of diverse sorts.

Compositions (usually metrical) in any one of the regional native varieties come to find favour with the audience. In time, such compositions spread all over the community, although the compositions are identical in pronunciation and structure with a particular variety but in their new role of being prevalent and predominant all over the community, these are assumed to constitute a variety neutral to all of them. These are learnt as such and recited and passed on in their original fixed forms.

In its new role as medium of popular texts, tacitly accepted by the whole community, the particular regional variety may be designated as literary variety. Thus, it is the new role of a particular native variety that justifies a distinctive label for it.

Obviously, a literary variety is not fashioned deliberately by any group of speakers in a speech community. It evolves unnoticed and imperceptibly.

It may be observed that to all appearances, both the varieties are identical to start with but in fact, both differ very significantly *ab initio* in their nature and roles. Native speech is *sine qua non* of social organization. It fulfils the very essential and prime role of verbal communication for the growth of a community. It is marked with characteristic features, discussed above.

On the other hand, literary variety (seemingly a reflex of a particular variety of a native speech) serves as medium of communicating certain texts all over the community and, in this role, it has to be fixed and uniform in pronunciation and structure. To preserve its unique nature, it has to be taught and learned from the very beginning in its pristine form unchanged and invariant. Like native speech, it does not undergo any change. It remains invariant and unchanging.

It may also be pointed out that it is not in the nature of a speech community to develop obligatorily a literary variety of speech. There are a number of speech communities that lack any literary style of speech. Evidently, it implies that emergence of literary style in speech communities is not universal. *Ipso facto* literary speech is nobody's native speech. Nobody learns it on his own. It has to be taught. By whom? Obviously, by those who have learnt it in turn from their predecessors, till we go back to the generation who was the first in line to recognize and accept it as a distinct variety with a distinct role at the time of its origination.

Propagation of literary speech from generation to generation is assured by a well-organized academic system. Children are admitted to schools at an early age. Since they are already well-versed in their native speeches, meticulous care is taken to teach correct pronunciation and usage of literary diction. Special efforts are made not to let the two styles get mixed up. Purity of literary diction is desired in any case.

VIII

Periodical replacement of literary diction

In a community, use of literary speech runs parallel with native varieties: one, in its fixed and unchanging form, while the others undergoing change imperceptibly all the time.

After several generations, a time comes when a gap between the two widens visibly in terms of pronunciation and structure. Over this period, the literary variety has stayed almost the same - unchanged and invariant. On

the other hand, native varieties have undergone changes at all levels of their structure. Mutual intelligibility between the two varieties is also dimmed. The rapport between the two is upset.

To mend the imbalance and adjust rapport between the two, the literary variety is replaced by one of the regional native varieties, considered more popular and dominant in the community. New literary variety, thus, emerges, replacing the one current there. The variety thus supplanted finds its place in the archives. The native varieties, however, continue to function as usual. In the history of a speech community, this process is repeated periodically.

There is no room for the popular belief that a new literary variety results from the preceding one. In course of time, a literary variety develops into another literary variety. A literary variety being stable and invariant, does not have the seeds of growth. Question of its developing into a new variety does not arise. To claim, for instance, that classical Sanskrit comes from Vedic Sanskrit, Pali from classical Sanskrit, etc. is simple myth. It is going against the very nature of literary speech.

IX

Features distinguishing native and literary varieties

In conclusion, we may mention here features that distinguish native and literary varieties.

- i. A child born in a family in a speech community acquires on his own, the speech spoken in the family and neighbourhood. This may be called his native speech.

On the other hand, there is noticed in some speech communities another type of speech in use by some children. They are introduced to it at a later stage when they are fluent in their native speech. This is taught to them usually in an academic institution. They learnt it in the form as it is taught to them. This may be called literary speech.

- ii. Native speech is medium of day-to-day intercommunication in the community; its acquisition is a must.

Literary speech, on the other hand, is medium of compositions (usually metrical) which are appreciated and prized by some members all over the community.

- iii. The process of acquisition of native speech proceeds on its own accord. There is no authority that guides the child in this respect and enforces any uniformity with regard to pronunciation and its usage.

On the other hand, literary speech is taught. Its teaching is well-planned. A uniformity in its pronunciation and usage is sought. Conscious efforts are made by the teacher to achieve that.

- iv. In spite of gradual change, mutual intelligibility among contemporary generations in a family does not suffer. Native speech, thus, continues eternally in a family.

On the other hand, literary speech subsists only for some time. Being fixed and invariant, it is not capable of developing into a new variety. Rather, it is supplanted by a new literary variety. Between the two, i.e. old and new, literary speeches, there is no genealogical succession.

- v. To produce and interpret utterances in native speech, one is not required to refer to grammatical treatise, book of phrases, lexicon, etc. All the desired information is there in the mental make-up of a speaker. He has not to look around for any help in this respect.

On the other hand, for composition in a literary speech and its interpretation, one is hardly self-sufficient. He has to refer to grammar books, treatise of usages, lexicon, etc. All this information comes from external resources outside of him.

- vi. Speech is so universal in human societies that it seems man is made to speak. He is apparently endowed with the faculty of speech. Thus, the process of acquisition of speech, in no way, may be said to begin from the very birth of a child.

On the other hand, literary speech is not something of a usual phenomenon. It is not in the nature of human societies that they must have literary styles. There are communities that do not have any literary speech. Its acquisition is optional and starts late in life for those who care to acquire it.

X

Nature of speech varieties described by Pāṇini in the Aṣṭādhyāyī

We have observed that in human communities all over the world, speech is *sine qua non* for the very existence of a community. Its organization and development rests on it primarily. We cannot visualize a herd of human beings deaf and dumb.

A child born in a community must acquire on its own the speech spoken in the family and neighbourhood. No one helps him to learn it. The speech he thus acquires may be called his *native speech* or mother tongue. It does have regional varieties.

One of the regional native varieties may come to be approved tacitly as medium of transmission of compositions (usually metrical texts) loved and prized by the whole community. In its origination, though it is identical with its native variety, its role as pan-community medium distinguishes it as a new variety functionally. It may be called literary variety. In its new role, it is not regarded as anybody's native speech. Its knowledge is not acquired on its own like a native speech. Rather, it has to be taught and learnt. Its acquisition is, however, not obligatory - socially or culturally. Only some members of a community may choose to learn it. Its teaching and learning is organized usually in academic institutions. In its form and structure, it remains fixed and invariant.

In this background, we would like to examine here, the nature and character of speech varieties described by Pāṇini in his grammar, the Aṣṭādhyāyī.

ārṣa and anārṣa:

To know what speech varieties are described by Pāṇini, it may be pertinent to consider the following structural statement read in the Aṣṭādhyāyī:

(ōt) sambuddhau śākalyasye tāvnarṣe (pragr̥hyam) (1116)

The statement has been subjected to two slightly different interpretations. The expressions *itau* and *anārṣe* both are read in the seventh *vibhakti* and singular. Together, these may constitute a phrase. In one interpretation, *anārṣe* is construed to qualify *itau*. The phrase *anārṣe itau* is interpreted to

mean 'before that *iti* which is *anārṣa*'. And *anārṣa* is interpreted to denote 'not just part of *ārṣa* literature'.

Such a situation obtains in *padapāṭha* of *Rgveda* established by *sākaḥya*, where a vocative form ending in *o* is always followed by *iti* but not so in the *saṃhitāpāṭh*. Thus, the rule operates in the *padapāṭh* text only. And *padapāṭh* is regarded as *anārṣa*. It is thus implied that in an *ārṣa* text, viz. *saṃhitāpāṭh*, no such operation holds good.

In the other interpretation, *anārṣe* is interpreted simply to mean 'in *anārṣa* text'. The phrase *itau anārṣe* is rendered as 'before *iti* in *anārṣa* text'.

Whatever interpretation one may subscribe to, it is immaterial so far as determination of the import of *anārṣa* is concerned. The expression *anārṣa* in the context implies its contrast with *ārṣa*. What do these two expressions mean?

The expression *ārṣa*, being derived from *ṛṣi* by adding the suffix *an* means 'belonging to *ṛṣi*, relating to *ṛṣi*, (something) enunciated by a *ṛṣi*'. In the *Mahābhāṣya*, the expression *vaiddik* is used instead.

And *anārṣa*, thus, means 'which is not *ārṣa*, different from *ārṣa*'. For this, the expression *laukika* is used in the *Mahābhāṣya*.

Thus, *ārṣa* and *anārṣa* may be understood to denote respectively, 'Vedic' and 'non-Vedic texts'.

Pāṇini describes in the statement referred to above, structural behaviour of the speech sound *o* (*ot*) occurring finally in vocative singular (*sambuddhau*) before the particle *iti* (*itau*). In this context, he refers to *anārṣa* type of texts. Since in the structural statement, both *iti* and *anārṣa* are read in the seventh *vibhakti* and singular, *anārṣa* may be construed with *iti* and be understood to qualify it or *anārṣe* may simply denote 'in the *anārṣa* texts, literature'.

In both cases, *anārṣa* undoubtedly denotes 'texts that are not *ārṣa*'.

Thus, an expression like *vāyo iti* in an *anārṣa* text is realized as *vāyvin* or *vāyo iti* as mention of *sākaḥya*'s name implies optionality of the operation involved here (6177).

On the other hand, in *ārṣa* text, there is no optionality. In a text like *eta gā brahmabandho iti abravīt*, the sequence *o-iti* is realized as *brahmabandhaviti*. It undergoes phonological change as provided in (6177).

Incidentally, the statement discussed above points out in a very general way, but in definite terms, that *Pāṇini* describes two types of speech varieties in the *Aṣṭādhyāyī*, viz. *ārṣa* and *anārṣa*. In his grammatical description, however, he does not describe the peculiarities of respective varieties in terms of *ārṣa* and *anārṣa*. He uses different nomenclatures to denote speech varieties described there. We shall discuss below how varieties described by *Pāṇini* relate to *ārṣa* and *anārṣa*.

Bhāṣā and speech varieties of miscellaneous genera of literature

From a survey of grammatical description given in the *Aṣṭādhyāyī*, we learn that there are certain statements that refer to peculiarities noted in a speech variety called *bhāṣā*, by *Pāṇini*. For instance, in *bhāṣā* to denote the general past tense *kvasu* (= *vas*) is substituted optionally in place of *lit* only after the verbal stems *sad* 'sit', *vas* 'reside' and *śnu* 'hear' (32108). The expressions *sakhī* 'a female friend' and *aśiśvī* 'a childless woman' occur in *bhāṣā* as feminine forms. These are made from *sakhā* and *aśiśu* (which are used as feminine stems elsewhere) by adding the suffix *nīp*.

Similarly, there are other statements that point out peculiarities of a number of speech varieties used in the genera of literature identified as *chandas* (1236), *brāhmaṇ* (2360), *mantra* (3271), *yajuṣ* (61115), *nigama* (63112), *kāṭhak* (*yajuṣ*) (7438), *ṛc* (7439), *anubrāhmaṇa* (4262), etc.

The bulk of the statements are not specified either way. It is assumed these are shared by *bhāṣā* as well as by these speech varieties. However, their application to the one or the other has to be determined very judiciously. We cannot discuss this question in passing. Nor is it relevant in the present context.

From the above survey of structural statements in the *Aṣṭādhyāyī*, it is clear that *Pāṇini* describes two types of speech varieties here, viz. *bhāṣā* and a group of varieties used in the literature mentioned therein.

Besides showing differences in structure, the two speech varieties differ in the type of subject matter dealt with in the respective literature produced in them. The genera of literature produced in various speech varieties relates to religious and liturgical themes. Hymns and chants

perceived (*dr̥ṣṭa*) by seers (*r̥ṣi*) (427-9) or texts promulgated by them (43102-109) are produced in these varieties. On the other hand, all sorts of secular literature - technical and non-technical - are written in *bhāṣā* (cf. 4387). Besides, explanatory or expository treatises on religious and liturgical and secular texts or on stray topics are composed in *bhāṣā* (cf. 4366-73). Meta-language of the *Aṣṭādhyāyī* is based on *bhāṣā*.

In point of time, literature written in the group of speech varieties is older than that in *bhāṣā*. Structural description of *bhāṣā* presupposes existence of these texts and various themes discussed therein. For instance, derivatives current in *bhāṣā* such as *chāndas* or *chāndas* denote 'a commentatorial treatise on *chandas* text' (4371), *brāhmaṇika* 'a commentary on *brāhmaṇ* text' (4372), etc. Also, there were works written in *bhāṣā* on specific topics described in such texts, e.g. *agniṣṭomik* 'a commentary on *agniṣṭoma*', *pākayājñika* 'an expository work on *pākayajña*' (4368) etc.

We may thus claim that the term *ārṣa* denotes all the texts referred to above and written in the various speech varieties, peculiarities of which are pointed out by *Pāṇini* and *anārṣa* to the literature composed in *bhāṣā*.

XI

Nature of *ārṣa* speech varieties and *bhāṣā*

There is enough evidence in the *Aṣṭādhyāyī* to show that an elaborate system of education had been prevalent in that age. Students (mostly boys) of three higher castes (excluding the *śudras*) were admitted formally at a young age to the academic institutions presided over by an *ācārya* (1336). By that time, a student had acquired proficiency in his native speech.

Academic curriculum was an integrated one. Instructions were given in both *ārṣa* and *anārṣa* languages and literatures. The *bhāṣā* was the medium of instruction. Its form and structure had been maintained almost intact all through several generations. Grammatical descriptions of it written in different times before *Pāṇini* show very minor differences as cited by him in the *Aṣṭādhyāyī*.

The group of *ārṣa* varieties of speech had long ceased to be literary media. However, the *ārṣa* texts had been continually taught and learnt from generation to generation in their original pronunciation and structure. The

task was formidable. Only some students might have dared to undertake it. And this practice persists even today in some families.

The *ārṣa* varieties had never been native speech of any families. There had been simply literary varieties of these times, prevalent in different periods.

And likewise, *bhāṣā* had never been a native speech of any people. A speech that stays static and invariant over a period of several generations could not be a native speech. Structural descriptions of *bhāṣā* prepared by various grammarians in different times and climes attest to its unchanging nature throughout a long period. A native speech is not stable. It is rather always in a flux of change.

The *Mahābhāṣya* commenting on *pr̥ṣodarādīni yathopadiṣṭam* (63109) observes that the class of expressions beginning with *pr̥ṣodar* 'having spotted belly' are correct as uttered by the *śiṣṭa*. He assumes the *śiṣṭa* were native speakers of *bhāṣā* or, rather, of all speech varieties described in the *Aṣṭādhyāyī*. Further, he believes that they knew much more than what was described in the *Aṣṭādhyāyī*.

How does the *Mahābhāṣya* come to fit on the expression *śiṣṭa* in this context? *Pāṇini* does not give even the faintest hint that *upadiṣṭa* is to be construed with any particular group of speakers. It is *Pāṇini*'s general practice to cite linguistic forms as these are found in use if derivative process of such forms involves assumption of unique and complicated procedure. The notion of *śiṣṭa* as described in detail in the *Mahābhāṣya* is simple myth.

It may be noted that *pr̥ṣodarādīni* is an open-end list. It contains only nine items in *Pāṇini*'s times.

The expression *pr̥ṣodara* occurs in *taittirīya saṃhitā* (V. 6.14) as mentioned by Macdonell in the *Vedic Grammar* (P. 147, 246(a)).

If legitimacy of formation of *pr̥ṣodara* and the like is based on their use by the *śiṣṭa*, it obviously implies that such a community had been in existence since very ancient times and their speech had been transmitted uninterruptedly from generation to generation in its invariant and fixed form.

The *bhāṣā* was the literary speech current during that age. It does not exhibit linguistic properties characteristic of native speech. Like native

speech, knowledge of literary speech is not acquired on one's own. It has to be taught and learnt. Its teaching is organized and supervised. Student's progress in its acquisition and use is tested. *Pāṇini* describes formation of such expressions as *aikānyika* 'a student who makes one error in his study', *dvaiyanyika* 'one who makes two mistakes', *dvādaśanyika* 'one who commits twelve mistakes', *trayodaśanyika* 'one who makes thirteen mistakes', etc. (4463-64). A child's progress in the acquisition of his native speech is not supervised much less tested.

Thus, *bhāṣā* was not anybody's native speech. It could not be learnt on one's own. It had to be learnt from a teacher if one chose to acquire its knowledge. Its acquisition was optional and not a must like native speech which any and every body born in a speech community acquires on his own.

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Note: References to *sūtra*-s of the *Aṣṭādhyāyī* are from Pathak. The first figure denotes *adhyāya*, second the *pāda* and the rest, number of *sūtra*. For instance, 63112 means 6th *adhyāya*, 3rd *pāda* and *sūtra* number 112.

THE INDUS VALLEY WRITING IS EVIDENCE OF ANCIENT DRAVIDIAN LITERACY

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Abstract

In this paper, we discuss the hypothesis of Steve Farmer that due to the short number of Indus Valley signs on Harappan seals, the Harappans were probably illiterate. In this paper, we explain that this hypothesis is wrong and that the Harappan seals were short, because they expressed the wishes Harappans made to their gods.

Steve Farmer, in a number of papers published on the *World Wide Web*, presents a number of arguments suggesting that the Indus Valley writing is a non-linguistic system of communication. Farmer maintains that the Indus Valley script is not a form of writing because: 1. the Indus Valley script has too many singleton signs, i.e. signs that appear only once on a number of seals; 2. the sign repetition rate for the Indus Valley inscriptions is too low; 3. the number of Indus Valley signs written on the seals is far too short for writing; 4. a predominance of at least twenty high-frequency signs with low symbol repetition within any given Indus Valley seal, and 5. the failure of the distribution of Indus Valley signs to meet the symbol frequency pattern for words in a text pursuant to Zipf's Law.

We may assume that Farmer's hypothesis (in the null form) would be: "There is no relationship between the length of the average Indus Valley text and its linguistic content". If this is your hypothesis, we have to look at the evidence text-length size, not missing markers. This is due to the fact that archaeology is an evolving enterprise; every day, archaeologists find new material that adds knowledge about ancient civilizations. Just because there is no evidence today, there may be some in the future. Even if nothing is ever found, we have to look at relevant like research to text size and literacy. The research most like Farmer's hypothesis is corpus linguistic research which analyses the use of varying words across text genres or registers. This research is supported by almost 50 years of research.

Farmer maintains that in a majority of Indus Valley seals, we find the presence of a number of singleton signs-symbols that appear only once in the Indus Valley corpus of seal text. After a study of the 13,371 signs / symbols on the Harappan seals published by Iravatham Mahadevan (1977) found that the sign frequency for singletons was 27%. These singletons appear once and are never written again on a seal, while 50% of the signs show up five times or less. Other findings by Farmer were that one symbol appears on over 10% of the Indus signs; four symbols amount to over 21% of the signs; eight symbols equal 31% of the signs, and twenty Indus Valley symbols equal 50% of all the Indus Valley signs.

Farmer also examined Bryan Wells, *An Introduction to Indus Writing* (1999). In relation to the Wells corpora, he found that out of a total of 7,165 signs, 75% of the signs show up five times or less, and 50% of the signs appear only once. As a result of these sign frequencies, Farmer believes that the Indus Valley writing cannot be a linguistic system.

The use of sign frequencies to determine the content of the Indus Valley seals and decide if it is a linguistic or non-linguistic form of writing is not supported by corpus linguistics. Douglas Biber, Susan Conrad and Randi Reppen, in *Corpus Linguistics* (1998), make it clear that in corpus linguistics researchers empirically analyse the actual pattern in which words are used in natural text; the natural text is known as a "corpus". The linguist interested in corpus linguistics must look beyond simple counts of linguistic features. He must also provide a quantitative evaluation of the corpus that includes qualitative and functional interpretation of the word patterns in relation to language use. The first uses of corpus linguistics were by Henry Kucera and W. Nelson Francis (1967). Kucera and Francis (1967) examined a one million-word corpus, distributed across 15 genre categories. They found that out of a total of 1,000,000 words, there were only 50,406 different words used within and across the 15 registers of American English. In relation to the nine most frequent word occurrences within the corpus, they found the following: 1. 'the' 69,971, 2. 'of' 36,411, 3. 'and' 28,852, 4. 'to' 26,149, 5. 'a' 23,237, 6. 'in' 21,341, 7. 'that' 10,595, 8. 'is' 10,099, and 9. 'was' 9,816. The interesting finding from this study was not just the distribution of the words across the text. It also made it clear that although 'the' was the most frequent word in all the categories, the usage of other top English words in the corpus depended on the genre classification. This meant that you could not make generalizations about a language based solely on the frequency of words in that language.

This point is made clear in the use of the English term 'deal', in the Lancaster-Oslo / Bergen Corpus (LOB). The LOB is a corpus of written

texts. It consists of 15 registers that make up a corpus of 1,000,000 words. The registers in the LOB range from 12,000 to 160,000 words. Biber, Conrad and Reppen, in *Corpus Linguistics*, report that most of the common words in all the corpora of the LOB were function words: 'make' 2,417, 'of' 35,745, 'the' 2,817, 'he' 9,068, and 'I' 7,778. In this study of the LOB, the researchers found that the term 'deal' performed several different functions in the LOB corpora. The researchers found that 'deal' could be used in the LOB both as a verb and as a noun. For example, across the registers, 'deal' occurred as a verb in the LOB corpus of million words, 119 per million words (pmw), compared to 90 pmw as a noun. Further examination, of the LOB corpus determined that, in Academic prose, 'deal' was used as a verb 176 pmw, versus 74 pmw as a noun. In relation to the Fiction prose, 'deal' appeared 107 pmw as a verb and 63 pmw as a noun. This difference in frequency rates between the uses of 'deal', makes it clear that the uses of a word or symbol in a text cannot be generalized. The findings about the uses of deal across the registers of the LOB, make it obvious that the function of a word or sign for that matter has varying uses depending upon the context or genre in which the term is used. As a result, just because Farmer found a specific frequency pattern for any given Indus Valley signs, tells us nothing about the morphological and or semantic uses of the signs within the seal text. The fact that a particular sign has a low frequency rate among the seals says nothing about the linguistic nature of the Indus Valley writing. Farmer's frequency distribution of Harappan symbols only tells us the different rate of appearance of a sign across the corpus of Indus Valley seals, not its linguistic nature.

Farmer says that the Indus Valley writing does not show enough sign repetition to represent a comprehensible text. In his opinion, this results from the "extreme brevity" of the inscriptions on the seals and low repetition rate.

The argument about the presence of singletons in the Indus Valley writing says nothing about the literacy of the Indus Valley seals. This results from the fact that although the new sign (or singleton) found in a seal text may not occur in other seals, the singleton is usually made up of a combination of two or more of the seventy basic Indus Valley signs to form a "new" sign or singleton.

The Oracle Bone writing confirms this view. In the Oracle Bone writing, we see a number of signs that are formed by two or more symbols.

In L. Wieger (1965), we learn that the Chinese writing system is based on 224 Primitive Chinese signs called *Gu wen*. These graphemes are joined together to make new words.

The *Gan zhi* or cyclical graphs are among some of the most ancient Chinese symbols. There are 22 signs in the *Gan zhi*. David N. Kightley (1978) notes that these signs have been used from ancient times up to the modern period. The *Gan zhi* signs are joined together to form new words, e.g. the *yi* symbol and the symbol for 'pit' are joined together to make the word *Xiung* 'accident, unlucky'.

David Kightley (1978) has made it clear that while we may find hundreds of Oracle Bone inscriptions, there were only 42 signs frequently used in the writing. These 42 signs, along with a number of pictographic signs, were combined to one another and used to make the corpus of Oracle Bone inscriptions. Because these inscriptions were written for divining purposes, the terms used in this genre were associated with divinations and prognostications. As a result, as the writing was used for other purposes, the Chinese had to invent new signs or singletons based on the *Gan zhi* and *Gu wen* signs to record new types of information, for a writing system used originally for divination. Over time, these singletons would become high-frequency terms as they were used more frequently. Farmer claims that the Indus Valley seals are far too brief to record any meaningful information. This contention has no linguistic validity. A sentence is a combination of selected syntactic items arranged or modified in a particular pattern. The number of signs used to write a particular sentence cannot define the literacy of a sentence. A sentence has meaning solely on the basis of the content of the syntactic elements of that sentence. For example, in Arabic, we have *kitab kita-b* 'he wrote (a) book'. In English, we have: 1. They came. 2. They saw her. 3. It is Jack. All of these sentences have few words but they do have meaning.

The presence of a limited number of signs on a seal has nothing to do with the meaning of that seal. This results from the fact that the Indus Valley signs are homophones that have varying meanings.

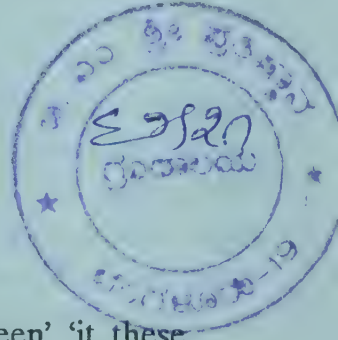
It is no secret that the Indus Valley signs are almost identical to signs found on the Egyptian pottery, and signs in the Minoan, Proto-Sumerian and Proto-Elamite writing systems. This is very interesting because some researchers such as I.J. Gelb (1963) believe that some other group besides the Sumerians invented the cuneiform script used by the Sumerians.

The study of ancient writing systems makes it clear that in many scripts, e.g., cuneiform and Egyptian, two or more signs can have the same

pronunciation. For example, in Sumerian there are 22 different signs that were used to represent the syllable *du*.

In the cuneiform system, there is no distinction between voiceless, voiced and emphatic consonants. As a result, the sign, *ga*, can be read as *ka* and *qa*. In Sumerian, there are many homophones. As a result, in many ancient languages, a term can be not only an adjective or demonstrative but it may also represent both a verb and noun. Each Sumerian cuneiform sign represents a monosyllabic CV (consonant vowel) or VC term. These Sumerian terms have multiple meanings:

<i>U</i>	'cock', 'totality', 'to ride', 'to steer'
<i>Ig</i>	'dike', 'embankment', 'to water', 'to say', 'this one'
<i>Ul</i>	'joy, pleasure', 'to glitter, shine', 'remote, distance'
<i>An</i>	'sky', 'the god An', 'to be high', 'high', 'in front'
<i>En</i>	'dignitary, lord', 'to rule', 'noble', 'until'
<i>Ur</i>	'to surround', 'dog', 'to tremble', 'humble', 'liver, spleen', 'it, these, thus', 'so'.



The varying meanings of these homophonic terms, that can be represented by one or more cuneiform signs, make it clear that the combination of several cuneiform signs can be written to provide meaningful statements in a short text. Below are some Sumerian examples:

<i>Ash ti en</i>	'Wish for a noble life'
<i>Zi eš</i>	'(This) Righteous shrine'
<i>I po tu</i>	'Capture the pure libation'
<i>Pa ge ki</i>	'Girls take an oath (this) place'
<i>Mi lu du</i>	'This (is) a favourable oracle of the people'

Given the fact that meaningful statements can be made through the combination of a few cuneiform signs, make it clear that the Indus Valley seals, even though they contain a limited number of signs, can express literate, meaningful statements contrary to the opinion of Farmer.

Much of Farmer's proposition that the Indus Valley writing is non-literate, is based on quantitative methods in addition to his corpus analysis. Farmer maintains that a comparison of the Indus symbol frequency to Zipf's Law, the non-literate nature of the writing is made clear. Zipf's Law is a statistical method used to study sign frequencies.

Although Farmer expresses confidence in the use of Zipf's Law to deny the literacy of the Indus Valley writing, controversy surrounds the reliability and validity of Zipf's Law. Commenting on Zipf's Law, Herden (1966) wrote that: "The Zipf Law is an unsuitable model. The Zipf Law is the supposedly straight-line relation between occurrence frequency of words in a language and their rank, if both are plotted logarithmically. Mathematicians believe in it because they think that linguists have established it to be a linguistic law and linguists believe in it because they, on their part, think that mathematicians have established it to be a mathematical law. As can be shown in a few lines, it is not a law at all in the sense in which the term is used in other sciences. If the words in the sample under consideration are arranged in descending order with regard to frequency, and the other variable is arbitrarily made a sort of inverse function of frequency by giving the word with the highest frequency the lowest rank, continuing with this along the series of the integral numbers, then it follows, as night follows day, that the relation between our 'variables' must be an inverse one. It is true that the relation need not have turned out to be such as to approach the bilogarithmic straight-line relation, but, as a matter of fact, it does not do so, and even if it did, this would not make it by itself a law in the strict sense of the term. That the decrease of frequency should be related to an increase in rank follows, not from any natural property of language structure, but merely from the fact that the word with the highest frequency is given the lowest rank, and as the frequency decreases, the words are given correspondingly higher ranks. Thus, the inverse relation between frequency and rank, which is at the basis of Zipf's Law, is one of our own making. Rightly seen, Zipf's Law is nothing but the arbitrary arrangement of words in a text sample according to their frequency of occurrence. How could such an arbitrary and rather trivial ordering of words be believed to reveal the most recondite secrets, and the basic laws, of language? (p. 88)"

In Figure 1, we reproduce Farmer's illustration of the distribution of Indus Valley seals. Farmer claims that the series of flattened lines on the lower right side of the chart indicate that Zipf's Law illustrates the non-linguistic nature of the Indus Valley inscriptions. Although this is Farmer's view, a cursory look at the distribution of Indus Valley symbols (B2) in relation to the Zipf Line (B1), shows a clear relationship between the variables. The two horizontal lines intersect. This shows considerable systematic variance between the variables. This indicates a positive relationship between the variables: $B1 + B2y$.

An examination of the lines indicate that B1 and B2 are very close to one another. The nearer the line is diagonal the higher the disordinal

Cumulative Frequencies of the 50 Most Common Indus Symbols

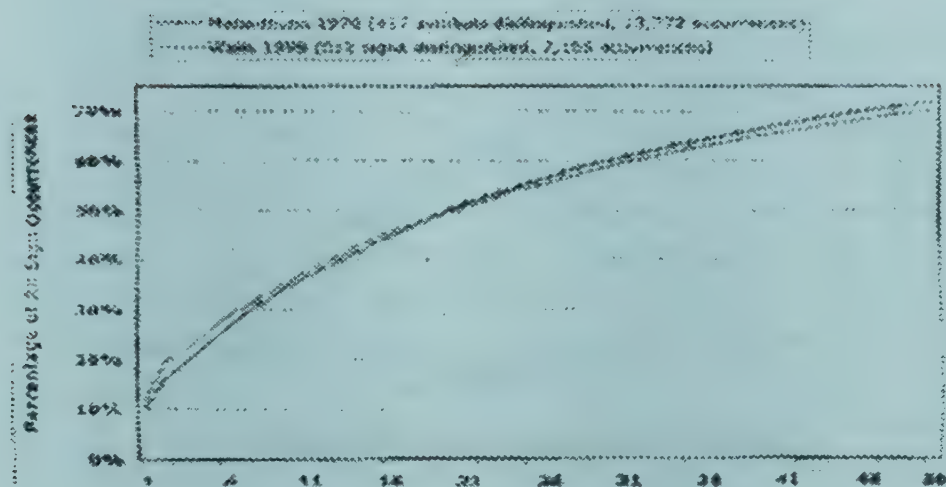


Figure 1: Distribution of Indus Valley Signs

relationship between the two variables. The fact that the lines make different angles with the horizontal axis that are not parallel support the presence of significant interaction between the variables.

In mathematics, a *Bell Curve* is used to represent the normal distribution of data. The use of a *Bell Curve* to compare the Zipf Line (B1 the independent variable) and the Indus Valley sign frequency (B2 the dependent variable), we see that the data support the literate, linguistic nature of the writing, not a non-linguistic nature for Indus Valley writing as maintained by Farmer. By placing a *Bell Curve* over the Mahadevan (Figure 3) and Wells (Figure 2) sign frequency graphed by Farmer, we recognize that the data has unimodality or the same symmetry on either side.

The *Bell Curve* shows that many of the flat lines of the Indus Valley data are outside the normal range. This places most Indus Valley signs in the normal range.

Z-scores allow us to truly test Farmer's hypothesis when graphed on a *Bell Curve*. The z-scores provide us with an accurate accounting of the close relationship between variables B1 and B2. They indicate that the largest concentration of Indus Valley signs have z-scores that lie between +1 and +2. Examination of the data within the *Bell Curve* illustrates that 95% of the Indus Valley signs are in the normal range.

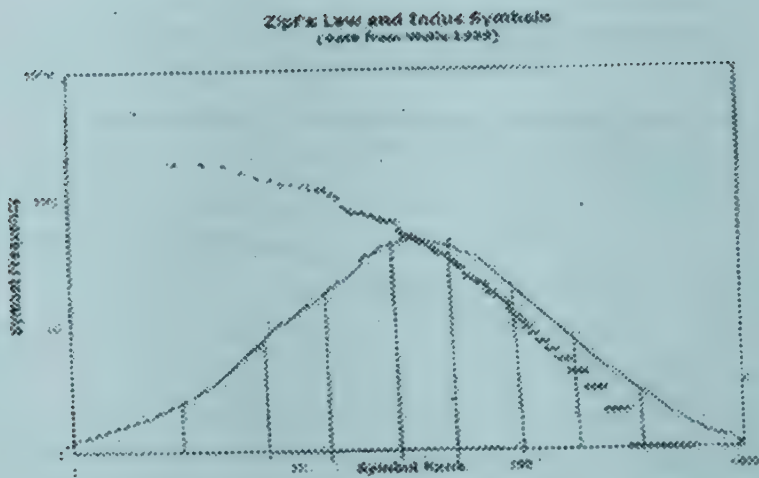


Figure 2: Wells Data and the Bell Curve

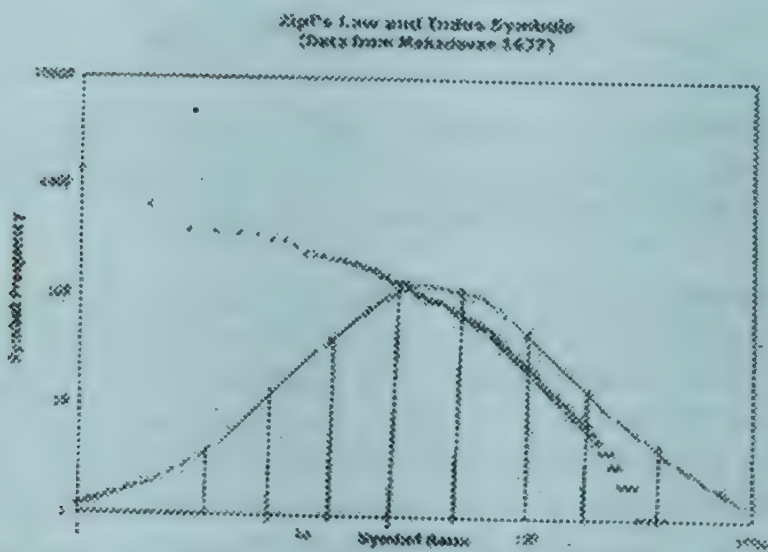


Figure 3: The Bell Curve and Mahadevan's Data

Z-scores allow us to truly test Farmer's hypothesis when graphed on a Bell Curve. The z-scores provide us with an accurate accounting of the close relationship between variables B1 and B2. They indicate that the largest concentration of Indus Valley signs have z-scores that lie between +1 and +2. Examination of the data within the Bell Curve illustrates that 95% of the Indus Valley signs are in the normal range.

The linguistic evidence in Farmer's graphs cannot support the hypothesis that the Indus Valley writing is non-linguistic. The use of a *Bell*

Curve to compare the Indus Valley corpus to the Zipf Line indicate - concurrent validity between the Harappan signs and the Zipf Line - that the Indus Valley script is writing, and not non-linguistic symbols as maintained by Farmer.

The Sproat's smoking gun theory does not support any of your arguments. Farmer makes it clear that he and Dr. Sproat made this theory. In theory construction, we move from 1. test of a hypothesis, 2. confirmation of the hypothesis by a number of researchers, 3. when many researchers confirm the hypothesis, it becomes a law, and 4. over time, given support for the research, the research becomes a law. I may be mistaken but I did not find any mention in Farmer's writings of any research these researchers have done to prove that the ratio of singletons go down over time. If Farmer does not present evidence that Sproat's smoking gun really exists in any of the modern or ancient texts, this hypothesis is pure speculation and nothing more. A test must have validity and reliability. Validity relates to the degree to which a test measures what it is intended to measure. A test is valid for a particular purpose for a particular group. Reliability relates to the degree to which a test consistently measures whatever it measures. Farmer has not done one test to prove that Sproat's smoking gun is valid and reliable. Without systematic testing of the hypothesis to prove that the number of singletons go down over time, he cannot apply this test to the Indus Valley material. In a note associated with Sproat's theory, Farmer admits that there are only 112 singletons among the 2,905 inscriptions in Mahadevan's 1977 concordance. The singletons according to this data represent only 0.039% of the total number of Indus signs in the concordance. This frequency rate tells us nothing about the literacy of the Indus Valley script. Above, I discussed the corpora from the LOB corpus. Examination of the LOB corpus indicates that the word 'make' occurs 2,417 times within the LOB corpora of 1,000,000 words; the term 'of' occurred 35,745 times. Respectively, the percentage of these words in the LOB corpus represents only 0.00242% and 0.0357% percent of the words in the corpus respectively. If we followed Farmer's line of reasoning, we would have to declare that American English writing represents a non-linguistic system of communication, given the low rate of repetition of the words 'make' and 'of' in American English text.

The fact that the Indus Valley inscriptions are short does not mean that they are meaningless, as suggested by Farmer. We have already illustrated that many meaningful Sumerian messages can be written using a limited number of monosyllabic (VC or CV) cuneiform signs. The Sumerian evidence and linguistic research generally make it clear that you

do not have to have a high repetition rate of signs within a text for the text to communicate meaningful information. This supports the view that the Indus Valley seals, though containing a few signs, are meaningful writing.

Farmer also maintains that the presence of many singletons in the Indus Valley writing indicate that the writing is non-linguistic. This view is not supported by the evidence from Chinese writing which indicate that over time the Chinese produced singleton signs by combining graphs to make new words from around 42 graphs used during the Bronze Age, to communicate new information that was not based on the divination lexicon used to read and interpret the Oracle Bone inscriptions. Moreover, it was made clear that the so-called Indus Valley singleton signs are not really new; they are just the result of joining two or more basic Harappan signs to produce new morphemes, the way the Chinese used the *Gu wen* and *Gan zhi* graphemes.

Farmer's hypothesis when seriously examined cannot be confirmed because he has arrogantly assigned selected meanings to Indus Valley writing without the proper foundation. For example, he believes that he can deny the reality of a literate Indus Valley writing through his perception of the "odd" sign frequencies in relation to Akkadian and Egyptian. This is an arrogant statement because Chinese and Arabic text are not written the same, or Japanese and English for that matter, yet that does not mean that the languages are unintelligible after you learn to read them. Moreover, the discussion of the LOB corpus makes it clear that word frequencies depend on genre-not writing in general.

Finally, a corpus analysis of LOB corpus makes it clear that you cannot make generalizations about the nature of a language based on word or sign frequencies alone, because the frequency of signs or words in a text vary across genres. This means that to truly understand the nature of a writing system like the Indus Valley script, you have to have knowledge of the genre, academic, religious etc., that the signs are used to communicate.

- My decipherment of the Indus Valley allows us to see the true nature of the Harappan writing. Farmer fails to look at Dravidian-Tamilian society. If he had looked, he would have discovered that the Dravidians like to wear totems or talisman inscribed with notes to their gods.

The Indus Valley seals were totems or talisman. This view is supported by the fact that on the back of many seals, there was a place to put a string to tie it around the ankle or wear it as a necklace.

The Indus Valley seals are written depicting the image of the god for a particular clan / kin group and a short inscription wishing for some gift from the god depicted on the seal. Farmer mentions the fact that the Vinca signs are similar to the Indus Valley writing. He is correct. The writers of both scripts came from the same middle African homeland. The Vinca inscription was written in Magyar (Hungarian). The Magyar language is closely related to Tamil and African languages, and the Magyar claim that their ancestors came from Sudan. Some years ago, Vamos Toth Bator, a Hungarian Scholar, and myself deciphered this writing. You can find our decipherment at the following website: <http://www.geocities.com/Tokyo/Bay/7051/MAGYAR.htm>.

In conclusion, the Indus Valley seals possess short inscriptions because the seals are request-text addressed to Proto-Tamil Gods. The genre of the Indus Valley seals make the sign distribution appropriate for the Harappans to communicate their desires to their gods. It appears that although the Harappans spoke Tamil, the people belonged to different clans or kinship groups that worshiped gods who were depicted as animals. And, as pointed out in earlier post by Loga, many Tamilian gods were represented as animals or were associated with a specific animal. Sometimes, the God depicted on the seal was related to the occupation of the bearer. This is one of the reasons why we find a number of Harappan inscriptions that bear the same inscription. Thus, the Indus Valley seals are totems and talisman that Tamils in the Indus Valley wore to demonstrate their devotion to their gods. You must remember that the Harappan Tamils respected the religion of their neighbour.

Farmer also claims that the Indus Valley writing disappeared. This is false. We find numerous examples, as discussed by B.B. Lal of Harappan signs on South Indian Megalithic pottery, and we also see Harappan signs in the Asokan inscriptions.

Finally, there is nothing in the discussion of the Indus Valley writing by Farmer that supports the view that the Harappans were multilingual, i.e. a code name today used to suggest that Indo-European speakers lived among the Tamils of the Indus Valley. The Harappans were literate and they wrote their seals in Tamil.

In conclusion, corpus linguistic research makes it clear that the use of words in a text is genre-specific. As a result, the length of text says very little about the validity of Farmer's hypothesis. This hypothesis is related to

sign frequencies, not kinds of communication. This material is therefore not relevant to supporting your hypothesis when the basic hypothesis lacks merit.

There is little if any validity in Farmer's theory about the non-linguistic nature of the Indus Valley writing. The hypothesis is groundless, given the interaction between the Zipf Line and frequencies of Indus Valley signs, along with the normal range of these frequencies, betrays the fallacy of your arguments about the non-linguistic nature of the Indus Valley writing. This along with Farmer using Sproat's theory to support his research, when he has never tested the theory to determine its reliability and validity, make Farmer's arguments invalid.

In Farmer's paper, *Five Cases of Dubious Writing in Indus Inscriptions*, he graphs the frequency of Indus Valley signs and compares them to Zipf's Law. A cursory examination of the data shows two features that would have told Farmer that his hypothesis could not be nullified.

Firstly, we see that there is interaction between the sign frequencies of data from Mahadevan and Wells. This interaction suggests a relationship between the variables in Farmer's study: Zipf's Law (the independent variable) and the Indus Valley sign distributions (the dependent variable).

In addition, the plot of the Indus Valley sign frequencies by Farmer fails to support his assertion that the Indus Valley writing was non-linguistic. In mathematics, the *Bell Curve* is the normal probability curve in statistics. Modern statistics is centered around the "bell curve" or "table of the normal curve".

The *Bell Curve* is very useful to statisticians because it makes it possible to easily interpret the probability of a data set or statistic, a researcher calculates. Graphing the distribution of a variable (data set) and then comparing it to a *Bell Curve* allows one to interpret the normalcy of the data set or variable.

One of the methods used to test the hypothesis using the *Bell Curve* is to graph the values of a data set laid out on the horizontal axis, and on the vertical axis, probabilities or frequency intervals are laid out. The mathematical properties of the frequency intervals make it possible to produce powerful statistical inferences about the data which can then be provided with a set of scores that forms a normal distribution.

Using the *Bell Curve* to test Farmer's plotting of the Indus Valley sign frequencies forms a normal curve. The distribution of the Indus Valley signs plotted by Farmer are 50% above the mean and 50% below the mean. The most striking features of the graph are the distribution of a fewer number of Indus Valley signs the further we move away from the mean. In relation to the distribution of Indus Valley signs plotted by Farmer, we find that most of the signs lie near the mean, which indicates the normal curve for data.

Again, I must say where is his evidence? The only justification he has for his idea about the non-literacy of the Indus Valley writing is that, in his opinion, the inscriptions are too short. This is no justification for his theory, since most inscriptions are short. As a result, he has not presented any evidence that the authors of the Indus Valley writing were speakers of diverse languages.

Moreover, if the speakers of these languages came from different cultural backgrounds, the archaeological evidence would support this claim. The archaeological assemblages for Indus Culture are the same. Where is the proof for Farmer's assertions, outside of his personal opinions?

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AFRICAN ROOTS OF THE DRAVIDIAN-SPEAKING TRIBES: A CASE STUDY IN ONOMASTICS

R. BALAKRISHNAN

Abstract

Using onomastic tools, this article seeks to establish the probable African origin of Koyas, a Dravidian-speaking tribe of Koraput district of Orissa.¹ It encompasses a case study on comparative toponymy of Koraput district, a multi-linguistic massif, a contact zone of many tribal languages of diverse familial affinities, and Nigeria, an African country, a multi-ethnic cauldron.² A micro-study on Koyas enumerates key ethnological terms covering various types of ethnonyms and the toponyms that can be specifically associated with the tribe, traces those terms in the toponymic corpus of Nigeria and argues that the footprints of Afro-centric ancient migrations can be tracked down to the foothills of Malkangiri in Koraput region and the Koya settlements in the surrounding areas. In establishing a link between surnames of the immigrant tribes and the toponyms of the place of origin, the probe draws the focus on Koya individuals with certain surnames and personal names and proposes them as the potential candidates for the comparative DNA studies to prove their ancestral links of remote antiquity, with Africa. Through this, the paper aspires to underscore the credence and utility of comparative toponymy as a reliable marker for the ancient migrations and makes out a case for future collaborations between Onomastics and genetics.

Dravidian speakers and their African affinities

There is a view that Dravidians had their origin in the proto-Saharan region.³ Clyde Ahmad Winters using a variety of anthropological and linguistic data considers an African origin of the Dravidian speaking people of

1. References to Koraput district in this article denote the undivided Koraput district, which includes the newly formed districts of Koraput, Nawarangpur, Malkangiri and Rayagada.
2. The term 'Dravidian' in this article is used in a broader sense to denote the speakers of the Dravidian languages and not used as a racial term. All the terms that denote tribe names, group, sub-group names, surnames, titles, etc. have been clubbed as ethnonyms and dealt with.
3. **Dravidian Encyclopaedia**, Vol. I. Thiruvananthapuram: International School of Dravidian Linguistics, 1990, p. 243.

India.⁴ According to him, the Dravidians are the remnants of the ancient Black population who occupied most of ancient Asia and Europe. Winters believes that the Dravidian and Mande languages are genetically related and the speakers of these languages lived in close proximity of each other during the Neolithic in the Fezzan region of Libya and they jointly colonized parts of Africa, Asia Minor and Far East. He holds a view that the Dravidians spread out of Middle Africa, accompanied by the speakers of Manding language into Asia. K.P. Aravanan advances a variety of multi-disciplinary inputs to strengthen the case for close Dravidian-African affinities⁵ and he has identified ten common elements shared by Black African languages and the Dravidian group.⁶ As early as in 1932, Prof. Tuttle had presented numerous lexical and grammatical parallels between the Dravidian and the Nubian.⁷ The French linguist L. Homburger discovered the phonetic, morphological and lexical parallels between the Bantu and the Dravidians.⁸ N. Lahovary who has contributed immensely to the subject, gives numerous lexical examples for the ancient kinship of the Dravidian group and Black African languages, including ancient Egyptian, Hausa, Bantu, Nubian and Somali.⁹ Citing numerous anthropological and pre-historical investigations in Egypt, East Africa and the whole of Near East, Lahovary seeks to establish the existence of the same brownish-white, long-headed population of gracile and small build from the Nile and Anatolia to the Ganges Valley in India in prehistoric times.¹⁰ The studies made by Cheikh T.N'Diaye and U.P. Upadhyaya, in the words of Winters, "have proved conclusively Homburger's theory of unity between the Dravidian and the Senegalese languages".¹¹ The evidence available to prove the affinities between the Dravidian and Black African languages are so enormous

4. Clyde Ahmad Winters has done an extensive research on the genetic unity of Black African, Elamite, Dravidian and Sumerian languages. His paper on the subject can be read at <http://www.geocities.com/Tokyo/Bay/7051/elam2.htm>. Further reference to his other articles on African connections of the Dravidian can be availed at <http://www.geocities.com/Athens/Academy/8919/wintersc2.html>.

5. K.P. Aravanan who stayed in Africa for five years (1977-82) has done an extensive research on the subject. In his book *Tamilarin Tayakam* published by International Institute of Tamil Studies (1984), he has made a detailed study on affinities between Dravidians and Africans. He has also written a book in English, *Anthropological Studies on the Dravido Africans*.

6. See the Internet pages of Clyde A. Winters, *op.cit.*

7. E.H. Tuttle, "Dravidian and Nubian", *Journal of the American Oriental Society*, 52 (1932), pp. 133-144 quoted in http://www.geocities.com/Athens/Ithaca/1335/Anthro/sud_afr.html.

8. See the Internet pages of Clyde A. Winters, *op.cit.*

9. Ibid.

10. Lahovary quoted in *Encyclopaedia of Dravidian Tribes*, Vol. I, Thiruvananthapuram: International School of Dravidian Linguistics, 1996, p. 58.

11. See the Internet pages of Clyde A. Winters, *op.cit.*

and overwhelming that the Congolese linguist Th. Obenga suggests that there was an Indo-African group of related languages.¹² Equipped with numerous archaeological evidences, B.B. Lal asserts that the proto-Dravidians came from Nubia, which was part of an extensive Saharan Civilization.¹³

Place names as markers for ancient migrations

This author in his earlier papers has demonstrated the utility of comparative toponymy and identical name clusters of different countries as a reliable tool for understanding the unknown pages of the pre-history.¹⁴ In ancient days, when people migrated as a group from one region to another, they transferred the place names of their original or previous homeland to their newfound homeland by naming their new habitats after their earlier habitats and in that sense, the place names formed a part of the migrant people's essential and collective baggage that consisted of their beliefs and faith system, legends, folklore and so on. Place names are potential witness to history and pre-history. Place names indeed offer testimony to the ancient inhabitants. The languages and the people who spoke those languages may disappear from a region due to various reasons whereas the place names of important areas will survive. This stability and mobility of place names if considered together can provide curious insights into the roots and routes of ancient migrations. "Place names supply in full measure linguistic information of a kind that is absent in archaeology and usually ignored or blurred in the historical records."¹⁵ George R. Stewart demonstrates as to how the place names, in the absence of any historical records, can throw light on the nature and extent of Phoenician influence upon the Greeks during the two centuries following the year 1000 B.C.¹⁶ He also proves the

12. Ibid.

13. Ibid.

14. R. Balakrishnan, "The Term Tamil a Toponymical Probe", *Journal of the Institute of Asian Studies*, Vol. XIV, No. 2, (March 1997); "Toponymy of Konarak: Kona the Prefix", *Orissa Review*, January 2002; "New Lights on Ancient Contacts between Kalinga and Indonesia," *International Journal of Dravidian Linguistics*, Vol. XXXIII, No. 1, (January 2004); "Khordha the Place Name: A Reminder of Ancient Iranian Connection" in Harish Chandra Das et al (Eds.), *The Cultural Heritage of Khurda*, Bhubaneswar: Fakir Mohan Smruti Sansad, 2003, pp. 14-26; "The Place Names Tosali and Dhauli", *Orissa Historical Research Journal*, Vol. XLVI, No. 1, 2003, pp. 31-39; "Toponymy of Ganjam: An Overview", *Orissa Historical Research Journal*, Vol. XLVI, No. 3, 2003, pp. 72-80; "The Indo-Iranian Name Heritage of Paralakhemundi Region" in Gopinath Mohanty et al (Eds.), *Cultural Heritage of Gajapati*, Bhubaneswar: Fakir Mohan Smruti Sansad, 2004, pp. 17-31.

15. F.T. Wainwright, *Place Names and Archaeology and History*, London, 1962, p. 41 quoted in K. Nachimuthu, "Methodology in Place Names Studies", in Puthusseri Ramachandran (Ed.), *Perspectives in Place Names Studies*, Trivandrum: Place Names Society, 1987, p. 85.

16. George R. Stewart, *Names on the Globe*, New York: Oxford University Press, 1975, pp. 377-385.

efficacy of place names in the reconstruction of the history of the Anglo-Saxons.¹⁷ Winter's paper on common African and Dravidian place name elements has an immediate relevance in the context of our present study.¹⁸ F.C. Southworth who believes that the study of place names can provide evidence for the linguistic identity of earlier inhabitants in a region applies the toponymic methods to prove the earlier presence of Dravidian speakers in western India.¹⁹ Asko Parpola considers the place names of the Harappan area as a "potential source of clues to identifying the Harappan language".²⁰ Bator Vamos Toth, an expert on the ancient Tamana Culture, has identified 21 toponymic suffixes and hundreds of place names that link Sudan, an African country and Asia.²¹ N. Lahovary who suggests an ancient connection of the Dravidian languages with Basque and the kindred languages of the Near East and southern Europe, before the Hellenic or Roman period, takes the aid of comparative toponymy to prove his point and argues that "in toponymy, there can be no question of cultural or commercial loan-words, nor the fortuitous resemblances, for it is the direct and faithful mirror of the language of the people of a country, at a given time, and can even long outlast it".²²

The comparative toponymy of Koraput and Nigeria

The undivided Koraput district is located between 20° 3' and 17° 50' north latitudes and 81° 27' and 84° 1' east longitudes. On the extreme north, the district is bounded by Kalahandi of Orissa and Raipur of Chhatisgarh, on the west by Bastar district of Chhatisgarh, on the south by the districts of East Godavari and Visakhapatnam of Andhra Pradesh and on the east by the district of Srikakulam of Andhra Pradesh and Ganjam of Orissa. The geographical area of the district is 26,877 sq.km. The undivided Koraput district has been divided into four districts, viz. Koraput, Nawarangpur, Malkangiri and Rayagada in the year 1994.

Nigeria is a West African country bounded by Niger on the north, Chad on the north-eastern corner, Cameroon on the east, Atlantic Ocean

17. Ibid.

18. Clyde .A. Winters, "Common African and Dravidian Place Name Elements", *South Asian Anthropologist* 9:1 (1988). 32-36 referred to in http://www.geocities.com/Athens/Ithaca/1335/Anthro/sud_afr.html.

19. Franklin C. Southworth, "Reconstructing social context from language: Indo-Aryan and Dravidian prehistory" in George Erdosy (Ed.), *The Indo-Aryans of Ancient South Asia*. New Delhi: Munshiram Manoharlal, 1997, pp. 258-277.

20. Asko Parpola, *Deciphering the Indus Script*, Cambridge: Cambridge University Press: 1994, p. 170.

21. Details regarding the research of Bator Vamos Toth can be accessed at <http://www.geocities.com/Athens/Academy/8919/toth.htm>.

22. N. Lahovary, *Dravidian Origin and the West*, Madras: Orient Longmans, 1963, p. 347.

on the south and Benin on the west. Nigeria, the most populous country of Africa, has about 500 groups of people, each with its own language. Nigeria is located in between 4° 16' N and 13° 46' N latitudes and 2° 53' E and 14° 43' E longitudes.

A comparative toponymic study undertaken by this author brings out the remarkable oneness of the place names of the undivided Koraput district and of Nigeria. As these identical place names form a thematic cluster within definable geographical areas located in two different continents, they cannot be dismissed as mere coincidences or as freaky.

The names of the African countries, rivers and hills in Koraput

The toponymic corpus of Koraput contains numerous evidences that can be considered the fossilized remnants of an African past. There are some place names in Koraput district which remind us of the names of some of the African countries. For examples, the Koraput toponyms Ankula, Gongo and Kongora, Jamba, Kamara, Rodia, Somili, Tongo, Ghana Beda, Libhar Kona and Gini Palli closely resemble the country-names Angola, Congo, Zambia, Cameroon, Rhodesia (known as Zimbabwe), Somali, Togo, Ghana, Liberia and Guinea respectively. The place name Sakara Baju of Koraput reminds us of Sahara desert, the most dominant geographical feature of Africa. Incidentally, Sahara is used as one of the synonyms to denote Saura tribe of Koraput.²³

As Adrian Room says, the names of rivers are almost everywhere the oldest place-names in a country and they are therefore frequently the most obscure.²⁴ The names of rivers occurring as the names of the places are indicative of the antiquity of those names. There are many hydronyms of Nigeria used as toponyms in Koraput. For example, the echoes of river names Boni, Gongola, Gora, Idi, Kenda, Lai, Mada, Mala, Minji, Mua, Nienga, Oda, Suri, Tapa and Tati of Nigeria are found in the place names Bonia, Gongola, Gora Handi, Idi Gunda, Kendar, Lai Katar, Mada Galu, Mala Padar, Minja, Mua Karu, Nialenga, Oda Jal, Suri, Tapa Guda and Tati Beda of Koraput, in that order. There are lakes in Nigeria known as Padaro and Paida, and these names are used as place name prefixes in the place names of Koraput as evident from Padara Palli and Paida Palli respectively.

23. *Tribes of Orissa*, op.cit., p. 29.

24. Adrian Room, *Brewers Dictionary of Names*, Oxford: Helicon, 2001, p. v.

The Oronyms (the names of "uplift" features such as mountains, hills and rocks) of Nigeria are also found as toponyms in Koraput. For instance, the hill names Gunjiji, Kali, Limi, Moku, Padam, Rama, Siri, Sutumi and Uki are used as toponymic elements in the place names such as Gunji, Kali Beda, Limika, Mokaput, Padama Pur, Rama Giri, Siri Peta, Sutu Gandhi and Ukia Palli respectively of Koraput.

The Orisha of the Yoruban religion

Yorubas, who live in the south-west Nigeria, constitute one of the dominant tribes of that country.²⁵ It is said that the original homeland of Yoruba people was in East Africa before they migrated from mid-Nile area to mid-Niger area taking the trans-African routes. Akure is the capital of the State of Ondo in south-western Nigeria and belongs to the Yoruba cultural region. It is an ancient site for rock engravings made by middle Stone Age or Mesolithic people about 10,000 to 15,000 years ago and lies on the outskirts of Akure.²⁶ Though the place name is written as Akure, the actual pronunciation of the place name is 'Akoora'. Against this backdrop, the occurrence of Akuru as a place name in Koraput, where numerous toponyms, hydronyms and Oronyms of Nigeria occur as clusters, gains significance. As seen earlier, Akure is the capital of Ondo State of Nigeria, whereas in Orissa, Ondara, Ondharalima are the place names found only in Koraput. Ado, also known as Ado Ekiti, is a town in Nigeria where Ekiti group of Yoruba people live, whereas Ado Bai and Ado Munda are the place names in Koraput. Arku is not only a place name in Koraput. It is the name of a dominant geographical feature known as Arku valley, lying just across the border of Koraput in the adjoining Visakhapatnam district of Andhra Pradesh, whereas Arku is a place name in Nigeria.

In the context of Yoruban religion, the term 'Orisha' denotes an angelic spirit. The territorial name Odisha (a State in modern India), the traditional form of the Anglicised name Orissa, is itself traceable to Orisha, for we come across toponyms such as Kalinga, Odra, Anga, Vanga and Gaya in Zaire (Democratic Republic of Congo) and names such as Kalangu, Odeya, Oduro, Odisi, Anga, Vange, Banga and Gaya in Nigeria. These names remind us of the ancient eastern Indian territories such as Kalinga, Odra, Anga, Vanga and Gaya, and this cannot be mere coincidence. We

25. The inputs on Yoruban religion and Yoruban herbalism used in this paper are sourced from an article written by Tariq Sawandi titled *Yoruban Medicine: The Art of Divine Herbology*. This article can be accessed at <http://www.planetherbs.com/articles/yoruba.html>.

26. <http://en.wikipedia.org/wiki/Akure>.

find the occurrence of many words associated with the Yoruban religion and Yoruban herbalism occurring as place names in Nigeria. Similarly, in Orissa in general and specifically in Koraput, we find many such terms occurring as place names. For example, Shango, the name of a divine Orisha, that stands for virility and masculinity, occurs in the place names Sango Bon and Sango Otta of Nigeria. In Koraput, we find place names such as Sanga Balasa and Sangel. Ese Oke and Isa are the places in Nigeria, named after Eshu, a trickster deity of Yoruban pantheon, and Koraput place names Eskodi, Eskapali and Eskapalem remind us of that probable association we seek to establish. Hence, we have a strong *prima facie* case to proceed further on a comparative study of the place names of Nigeria and Koraput.

The identical place name clusters

A list of identical place names of Nigeria and Koraput along with geo-co-ordinates²⁷ is appended to this article as Table 1. Place names have been given a location code to facilitate easy identification on the maps. Maps indicating the location of such place names in Nigeria as well as in Koraput are given in Plates 1 and 2 respectively.²⁸ We do not propose to discuss all such names but certain obvious trends are outlined.

There are some toponyms of Nigeria which have their exact parallels in Koraput, without any additions, deletions or alterations. They are (the Koraput counterparts are given within brackets): Abati (Abati); Alama (Alama); Amata (Amata); Aribi (Aribi); Arna (Arna); Alanda (Alanda); Badel (Badel); Bagam (Bagam); Bala (Bala); Balanga (Balanga); Balda (Balda); Bara (Bara); Bari (Bari); Chiroma (Chiroma); Daba (Daba); Dabba (Dabba); Dalama (Dalama); Dangara (Dangara); Dongari (Dongari); Gala (Gala); Gona (Gona); Gongo (Gongo); Gongola (Gongola); Guma (Guma); Gunji (Gunji); Jaba (Jaba); Jala (Jala); Jamba (Jamba); Karanga (Karanga); Karki (Karki); Kaseri (Kaseri); Kona (Kona); Konga (Konga); Kono (Kono); Kosu (Kosu); Kota (Kota); Kuda (Kuda); Kuli (Kuli); Lade (Lade); Lamba (Lamba); Lugel (Lugel); Mado (Mado); Makiya (Makia); Malgam (Malgam); Marama (Marama); Masuri (Masuri); Mauli (Mauli); Munda (Munda); Palama (Palama); Rada (Rada); Rukuba

27. In this article, the geographic co-ordinates of places are given in Degree-Minute-Second (DMS) system.

28. In view of enormity of place names to be accommodated within the limited space of the Nigerian and Koraput maps, the place names have been assigned location code and the corresponding place name and geo-coordinates need to be verified from the relevant table, i.e. Table 1.

(Rukuba); Samana (Samana); Sata (Sata); Suri (Suri); Tama (Tama); Tanda (Tanda); Tumba (Tumba) and Warda (Warda).

There are some mono-word toponyms of Nigeria, which have undergone a little phonemic modification and occur as such in Koraput. They are (the Koraput counterparts are given within brackets): Achuwa (Achava); Adobi (Adobai); Akura (Akuru); Anaku (Anaka); Ancaro (Anchala); Andoor (Andori); Angula (Ankula); Anguri (Anguru); Antere (Antri); Arage (Aragel); Bagare (Bagara); Bethel (Betel); Bokodo (Bokoda); Bomala (Bomel); Budena (Budeni); Chambi (Champi); Chendam (Chenda); Chikile (Chikili); Cholli (Chollar); Dakari (Dakara); Dugum (Dugam); Ekuri (Ekori); Gadabo (Gadaba); Gardi (Garidi); Gimare (Gimara); Gobir (Gobiri); Gongolon (Gongola); Guwal (Guali); Gummi (Gumi); Gundale (Gundalo); Gunta (Guntha); Gur Gur (Gur Gura); Hembavor (Hembfru); Jalima (Jaliama); Kabite (Kabtti); Kandare (Kandara); Karanjo (Karanja); Kilar (Killar); Kondor (Kondora); Kongo (Kongora); Konike (Koniki); Kopar (Kopara); Kuder (Kudari); Kundum (Kundam); Kunduru (Kundura); Kyanga (kiangi); Lajere (Lajeri); Lalere (Lalari); Lassa (Lasa); Lungura (Lunguri); Machari (Machara); Magun (Maguni); Majia (Majhia); Makadi (Makidi); Malamabe (Malamba); Maldau (Malda); Malet (Maleti); Mander (Mandra); Mangar (Mangara); Mangel (Mangrel); Marlu (Marla); Materum (Materu); Matale (Mathili); Meke (Meka); Mekira (Mekara); Meringa (Meringi); Mongu (Mongo); Murke (Murkar); Musko (Muski); Odusi (Odasi); Oduro (Odra); Panti (Pandi); Poroto (Porata); Potoro (Poteru); Papule (Papulur); Ramani (Ramana); Rawo (Rava); Rodeye (Rodia); Salabo (Salapa); Salami (Salimi); Sangela (Sangel); Sangar (Sankar); Sangeri (Sankari); Sikali (Sikala); Simma (Seema); Sindiri (Sindheri); Sinko (Singo); Somolu (Somili); Tabarau (Tabero); Tade (Tada); Tanko (Tanku); Taram (Taramu); Tashok (Tasaki); Tokolo (Thokal); Tulas (Tulasi); Turunku (Turuku); Ubaka (Uapaka); Udubo (Udupa); Umura (Umuri) and Wallaga (Walagay).

The specifics and generics

Another toponymic tendency that is noticed is that some of the mono-word place names of Nigeria have acquired some generic addition and occur as such in Koraput. In these cases, the original mono-word elements are retained exactly as such or with mild phonemic modifications as prefixes. They are (Koraput counterparts are given within brackets): Achalla (Achala Guma); Alaka (Alaka Padar); Amba (Amba Lima); Anga (Anga Raju); Anka (Anka Deli); Anta (Anta Mara); Anu (Anu Guda); Arku

(Araku Suni); Bali (Bali Guda); Bendi (Bendi Put); Benta (Benta Guda); Beru (Beru Guda); Beta (Beta Padu); Bichi (Bichi Kote); Bija (Bija Guda); Bila (Bila Put); Bina (Bina Pador); Bira (Bira Handi); Biri (Biri Guda); Boda (Boda Guda); Bodel (Bodel Jhara); Bodo (Bodo Golluru); Bori (Bori Guda); Boro (Boro Guda); Buda (Buda Guda); Bukuru (Bukuru Muska); Buri (Buri Chara); Buru (Buru Deli); Busu (Busu Paka); Chana (Chana Pukel); Chichi (Chichi Panga); Eka (Eka Deli); Elegu (Elaga Balsa); Gada (Gada Beda); Gadara (Gadara Padar); Gaji (Gaji Gam); Galia (Galia Guda); Ganda (Ganda Gudi); Ganga (Ganga Raj); Gini (Gini Palli); Gora (Gora Handi); Idi (Idi Gunda); Isaka (Iska Bande); Jaga (Jaga Munda); Jago (Jago Gura); Kali (Kali Mela); Kalia (Kalia Guda); Kendu (Kendu Guda); Kera (Kera Put); Kinci (Kinchu Put); Kora (Kora Put); Koya (Koya Giri); Kugu (Kugu Put); Lai (Lai Katar); Lakau (Lakku Badi); Lata (Lata Put); Lau (Lau Mala); Lauru (Lauri Guda); Lele (Leli Badi); Loki (Loki Gura); Luma (Luma Khari); Machi (Machi Amba); Mada (Mada Gudi); Maji (Majhi Put); Mala (Mala Guda); Maran (Maran Palli); Mati (Mati Guda); Maya (Maya Bali); Mede (Medi Put); Miri (Miri Guda); Moko (Moko Gudi); More (More Palli); Moshi (Mosi Gam); Mua (Mua Karu); Muko (Muka Guda); Muli (Muli Gura); Naga (Naga Jodi); Nai (Nai Kera); Nara (Nara Gan); Nor (Nor Ora); Nosiru (Nossi Gam); Nissin (Nisina Pakhna); Oda (Oda Badi); Odangbe (odanga Maska); Odi (Odi Jambo); Odu (Odu Guda); Ora (Ora Biri); Oria (Oria Pata); Pada (Pada Guda); Paiko (Paika Jodi); Pakka (Paka Basa); Palade (Palada Put); Papiri (Papara Handi); Pena (Pena Karu); Raha (Raha Guda); Rango (Ranga Jori); Rani (Rani Guda); Raya (Raya Gada); Rutu (Rutu Pai); Sabli (Sabili Nalo); Sada (Sada Lasa); Sakara (Sakara Baju); Sanga (Sanga Balasa); Sangam (Sangam Guda); Sara (Sara Bali); Sauro (Saura Guda); Sawa (Sawa Mari); Siba (Siba Padar); Sindi (Sindhi Gam); Sindiri (Sindhri Mala); Sukuru (Sukra Put); Suru (Suru Bali); Suti (Suti Podar); Tabela (Tabala Guda); Tandi (Tandi Konda); Tanga (Tanga Jodi); Tapa (Tapa Guda); Tati (Tati Pari); Tayo (Taya Put); Tonde (Tonde Palli); Tongo (Tongo Guda); Tope (Topi Pador); Toskorom (Tosaka Padu); Toto (Tota Pani); Tudu (Tudu Leliri); Tulen (Tulen Guda); Tumbi (Tumbi Tarai); Ture (Turi Guda); Uchi (Uchi Muchi); Uchu (Uchu Kumba); Uda (Uda Pada); Ude (Ude Giri); Udei (Uday Giri); Uki (Ukia Palli); Uli (Uli Manga); Umara (Umar Kote); Umari (Umari Guda); Umara (Umar Gan); Uru (Uru Beli); Usa (Usa Bali); Usaka (Usaka Pali); Ushi (Usi Gan) and Utoka (Utaka Padu).

It is relevant to note that the toponym Koraput itself is derived from a mono-word place name Kora of Nigeria with an addition of 'put', an oft-repeated place name suffix of the Koraput region. As seen above, some

of the mono-word place names found in Nigeria have acquired suffixes and occur as a composite name in Koraput following the specific-generic pattern which, is near universal and called a 'super linguistic system'.²⁹ There also we find conclusive evidence of the African connection of the Koraput place names for the generic elements acquired, as suffixes themselves occur as mono-word place names in Nigeria. In other words, both the specific elements and generic elements found in the above listed place names are traceable within the toponymic corpus of Nigeria. The inherent flexibility in the naming system accommodates lateral shifts between generics and specifics. In ordinary usage, if advantageous, either the generic or the specific may be used alone, observes George R. Stewart. When specific has the form of a noun, the same word may now serve as a specific and again as a generic, he further says. Hence, it is clear that a specific element can become a generic element and a generic element can substitute as a specific. The following words used as place name generics in Koraput occur as mono-word place names in Nigeria which are given within brackets. They are: Guda (Guda); Muska (Musko); Deli (Deli); Paka (Paka); Gudi (Gudi); Munda (Munda); Gura (Gura); Giri (Giri); Galu (Galu); Kona (Kona); Bali (Bali); Karu (Karu); Kera (Kera); Biri (Biri); Badi (Badi); Basa (Basa); Balasa (Balasa); Mala (Mala); Gandhi (Gandi); Pari (Pari); Tarai (Tarai) and Kumba (Kumba). It is relevant to note that Gudi (Kudi in Tamil) is one of the most frequently used place name suffixes in the Dravidian-speaking states of India and eastern India as well. Again, the suffix Balasa is comparable with the suffix Valasa used in many place names of the Telugu-speaking State of Andhra Pradesh and Valasai as a place name material occurs in Tamil Nadu also.

It should now be clear that the composition of the toponymic corpus of Koraput that accounts for the names of some African countries and names of the Nigerian rivers, lakes and places and their remarkable oneness as identical mono-word place names and uniformity in generic-specific pattern and their lateral shifts and so on cannot be accidental. Then the question arises: how could have these massive name transfers taken place? If it was through ancient migrations, who were the carriers of these names, what could have been their ethno-linguistic identities and when such transfers took place? Onomastics may probably answer some of these questions to certain extent. The geographies of this comparative toponymic study involving two different locations of the globe having been defined, it becomes imperative to try and find out whether such names and their transfers can in

29. For an overview on the Generic and Specific elements of the place names and their near universality, see George R. Stewart, *op.cit.*, pp. 20-25.

any way be linked to the present demography at either ends. In other words, if we assume waves of early immigrations, may be a gradual diffusion, into India, originating in Africa, the issue is whether such migrations and resultant name-transfers can be attributed to the ancestors of one or more of the surviving tribes, who inhabit the hills and plains of Koraput, and its immediate surroundings. It seems probable.

Koraput tribe names as place names in Nigeria

There is a close link between place names and tribe names. "The basic identity between the name of the tribe and the names of its inhabited territory is so close as to approach 100 percent, no matter which of the two names may have originated first".³⁰ There are extraordinary numbers of place names that are derived from tribe names, and conversely, there are many tribe names that are derived from place names. As George R. Stewart puts it, "the derivation may proceed in either direction, i.e. the tribe may give its name to the region, or the region may give its name to the tribe. The former is probably, the more common, and may even be termed regular."³¹ Either way, the close link between the tribe name and place name is evident. We are not inquiring into the etymology or cause of origin of such names and our interest is limited to establishing the link between the two. Place names derived from a tribe name means 'nothing more or less than a close association of that tribe with that region - commonly its occupation or domination'.³²

The following place names of Nigeria show oneness or close resemblance with the names of some of the tribes that live in the undivided Koraput district³³ (the names of the Koraput tribes are given within brackets after the corresponding place name or names in Nigeria). They are: Koya (Koya); Gadabo (Gadaba); Bondor Marsh (Bondo); Darowa, Darawa, Durwa (Dharua, Duruva); Dal (Dal); Baiga Suwa (Baiga); Dida (Didayi); Kondo (Konda Dora); Gonda (Gondo); Banja, Banjaram (Banjara); Gandi (Gandia); Bathudi (Baturi); Buyi, Buya River (Bhuiya, Bhuyan); Binjel Sabarumowa, Binji (Binjhal); Gara (Ghara); Kawara (Kawar); Karia (Kharia); Kisa (Kisan); Kola (Kolah Loharas); Koli (Koli);

30. George R. Stewart, *op.cit.*, p. 68.

31. George R. Stewart, *op.cit.*, p. 66-67.

32. George R. Stewart, *op.cit.*, p. 65.

33. The ethnonyms of undivided Koraput district are compiled on the basis of the community-wise and district-wise statistics of Scheduled Tribes of Orissa, according to 1991 Census as contained in *Tribes of Orissa*, Bhubaneswar: SCSTRTI, 2004, pp. 26-29.

Kora (Kora); Korawa (Korua); Kuli, Kulli (Kulis); Lodo (Lodha); Madia (Madia); Mankera, Mankeri (Mankirdia); Mangeti (Mankidi); Munda (Munda); Oran (Oraon); Omenama (Omanatya); Paruji (Paroja); Rajau Hairi (Rajuar); Santalma (Santal); Sauro, Sauri (Saora, Saura); Sabaru (Sabar, Savara); Saghara (Sahara) and Tarawa, Taruwa (Tharua). A list of place names of Nigeria from which the tribe names of Koraput are derivable is given in Table 2 and a map of Nigeria indicating the occurrence of such place names is given in Plate 3.

The language names

The names of the languages have a close association with the tribes who speak those languages. The origin of the name of a language is very often the origin of the name of a region or its indigenous inhabitants. The observation that to learn the origin of language names such as Danish, Polish, Swedish and Turkish, one needs to study the origins of the names of the Danes, Poles, Swedes and Turks, together with those of their countries, Denmark, Poland, Sweden and Turkey, illustrates the point.³⁴ Sometimes, one has a language name with no related ethnic name, as in the case of Sanskrit. However, the chances of the language names finding their echoes in the place names are plenty. In the modern Indian context, the names such as Tamil (the name of the language), Tamilar (the Tamils) and Tamilakam (the Tamil land), Bangla, Bengali and Bengal, Odiya, Odias and Odisha can be cited as examples. We find the similar trend among the tribal communities of Orissa. There are instances, where the language names and tribe names are one and the same or showing close resemblance. They are (the tribe names within brackets): Koya (Koya), Konda (Konda Dora); Gondi (Gond); Madia (Madia); Kisan (Kisan); Mundari (Munda); Santali (Santal); Saora (Saora), Kharia (Kharia) and Mahili (Mahali). There are some tribes or sub-groups, which are simply differentiated from one another with a prefix of the name of the language spoken by them. The two groups of Gadabas are identified and differentiated as Gotob Gadaba and Ollari Gadaba on the basis of their language. Interestingly, while Gotob Gadaba is considered a language of Munda group of the Austro-Asiatic language family, the Ollari Gadaba is a Dravidian tongue. Similarly, various groups of Kondh tribe are known as Kui Kondh, Kuvi Kondh and Pengo Kondh after the dialects spoken by them. There are some tribal languages in Orissa, which are identified by the names that show no connection with the name of the tribe that speak those languages. The name of the language

34. Adrian Room, *op.cit.*, p. xi.

spoken by the Bondo tribe is called Remo; the language of the Dhuruva or Dharua is known as Parji and that of Didayi is Gata.

This study reveals that the toponymic corpus of Nigeria contains certain toponyms, which show oneness or close resemblance with the language names of some of the tribes of Orissa, particularly of Koraput. The names of place names of Nigeria and the names of the comparable language names of Orissa are as follow, in that order. They are: Koya-Koya; Paruji-Parji; Kuyi-Kui; Kwi-Kuvi; Kondo-Konda; Olori-Ollari; Gondi-Gondi; Madia-Madia; Bengo-Pengo; Kisa-Kisan; Gata-Gata; Koda-Koda; Munda-Mundari; Santalma-Santali; Sauro-Saora; Gorumba-Gorum; Reme-Remo; Karia-Kharia and Korwa-Korawa.

If we agree that tribe names, language names and place names are linked, then associating that link with name transfers through migrations will not be a problem, for the tribe names are more linked to specific groups of people. An invading tribe may simply replace the population of a place while retaining the existing place name, whereas the tribes are not normally known to be changing the names that denote their own identities. In that sense, tribe names are more 'genetic' than the place names. Hence, if we are able to connect a specific set of place names to a specific group of people, then tracking roots and routes of such migrations and name transfers will be far easier and meaningful. It is relevant to note that most of the tribe names are occurring as place names - mostly as specific elements - in Koraput region. If we can account for such place names of Koraput through its association with the corresponding tribe who occupy the region currently, how are we going to account for the occurrence of same or similar place names in Nigeria? Can we suggest that those place names of Nigeria are the remnants of an ancient past and indicative of a probable African link of the tribes who now occupy the Koraput region? If we consider the current linguistic affiliations of various tribes of Koraput region whose tribe names occur as toponyms in Koraput as well as in Nigeria, we get a pluralistic picture. The list contains the tribes who speak Dravidian languages, Austro-Asiatic languages and the tribes who probably have lost their dialects and have taken to speaking some of local dialects of Indo-Aryan affiliations. Besides, the current linguistic affiliation of a particular tribe need not be indicative of its actual ethnic identity and for that matter, even of the linguistic identity of the same tribe at the time of migration in a remote past. An uninterrupted continuity in the tribe by itself *ipso facto* does not indicate in certainty, an uninterrupted use of a particular language by the tribe from the very beginning. In a multi-lingual environment, the ethnic and linguistic

boundaries get blurred. The Gadaba tribe of Koraput is a perfect case to understand this phenomenon. Hence, if we have to establish the probable African link of the tribes of Koraput region, it calls for a micro-study through which the link can be traced to communities, clans and if possible to families and individuals. We choose Koya, a Dravidian speaking tribe, for our micro-study and the selection is largely at random and partly guided by the earlier suggestions regarding African links of the Dravidian-speaking tribes.

The Koyas of Koraput and their African roots: A micro-study

The Koyas constitute the principal tribe of Malkangiri, situated to the extreme south of the Koraput region.³⁵ Koyas speak a language known as Koya and it belongs to the Gondi sub-group of Central Dravidian family. Koyas' mother tongue had been Kui but the Census "recorded their language after the name of the community".³⁶ Apart from Orissa, Koyas are found in the East and the West Godavari districts of Andhra Pradesh and in Bastar district of Chhatisgarh. Thurston called them "Koyis, Kois or Koyas".³⁷ There is a suggestion that derives the term 'Koya' from 'Koyya' that denotes "tree", but that seems to have been based on 'folk etymology'.³⁸

Communities, Segments, Synonyms, Surnames and Titles (People of India National Series: Volume VIII) provides data on the groups, sub-group names, titles, exogamous unit names and surnames of Koya tribe.³⁹ A study taken up by this author reveals that a considerable number of terms used as tribal designations, groups and subgroup names, titles, exogamous unit names, surnames of Koya tribe are traceable to the toponyms of Nigeria.

The tribe name Koya itself occurs as a place name in four locations of Nigeria. This application of tribe name as place name has its parallel in Koraput as well, for we come across Koya Giri as a place name there. The

35. For a detailed ethnographic account of Koya tribe, see. P.K. Mohapatra in **Tribes of Orissa** (Revised Edition), Bhubaneswar: SC & ST Research and Training Institute, 2004, pp. 203-212.

36. K.S. Singh cited in **Encyclopaedia of Dravidian Tribes**, Vol. III, Thiruvananthapuram: International School of Dravidian Linguistics, 1997, p. 167.

37. **Encyclopaedia of Dravidian Tribes**, Vol. III, Thiruvananthapuram: International School of Dravidian Linguistics, 1997, p. 167.

38. Ibid.

39. K.S. Singh, **Communities Segments, Synonyms, Surnames and Titles**, People of India National Series, Vol. VIII, New Delhi: Anthropological Survey of India / Oxford University Press, 1996, pp. 1476-1478.

specific element Malakan in the toponym Malakangiri, which has a significant place in the cultural geography of the Koyas, is traceable to the toponyms Malagan and Malakun of Nigeria. The genesis of Koya ethnological terms such as Konda Rajulu, Kamar and Musri are traceable to the Nigerian toponyms Kondo, Kamaru and Musari. The Koya exogamous clan names such as Chera, Madakam, Madi, Barek, Kunjami, Ori, Muchika, Karam, Paddam, Sunnam, Vanjam, Adiam, Kawasi and Sodi can be derived from the place names / hydronyms Cherawa, Cero, Madaka, Matagami, Made, Bareke, Kunjum, Oria, Muchia, Karama, Padam River, Sunnai, Wanja, Adi, Kawaje, Kawaseme, Sodina and Sodipe of Nigeria, in that order.

The names of Koya lineages that can be derived from the place names of Nigeria (within brackets) include: Badse (Badsweni, Badishi), Bogam (Bogun), Dadir (Dadiri), Emla (Emelego, Emelsua), Gaita (Gaida), Gondse (Gondi), Kalmu (Kalma), Karrhami (Karami River), Karta (Kartau), Kunjam (Kunjum), Napod (Napadna), Odi (Odi), Oyami (Oyada), Ponder (Ponder, Pondi), Punyem (Ponyan), Pusami (Pussa Bani), Rawal (Rawo), Rawal (Rawe), Tati (Tati), Teliari (Teli), Weti (Weto) and Wickalore (Wiga, Wikki, Wieko River).

P.K. Mohapatra furnishes an ethnological account of the tribe, which provides some additional inputs; hence, we may touch upon his account as well.⁴⁰ He identifies five phratries, the exogamous units, present in the Koya society. They are namely, Kowasi, Odi or Sodi, Madkam, Madi and Padiam. Besides, his account reveals the following clans that come under different phratries. They are: Kawasi, Duber, Emala, Wanzamir, Korsta, Witer; Sodi, Wika, Galir, Gontpontalewar, Ganget, Lawar Dagulwar, Pittalwar; Madkam, Durwa, Madiam, Tai, Mottum, Dharmu, Pondur, Jondor, Joder, Undmir, Kalmu, Turramir; Jelir, Oyemir, Madir, Darer, Pujsemir, Punyem; Omrar, Alwa, Bandam, Kurram, Padiam, Wetir, Kanjaroo, Kunja, Kokral, Kattam, Ondi, Rova and Kotam.

The following are the place names of Nigeria that are comparable with the ethnological designations furnished by P.K. Mohapatra, but not covered in the survey report, *Communities* cited earlier. These are: Dubare, Gali, Gangatilo, Lawaru, Laweru, Pitila Hills, Tayu, Motunde, Daram, Daramushe, Unde, Turame, Turmi, Jela, Oye, Madira, Dare, Alwali, Alwei, Bandam, Kurra, Kanjirawa, Kanja, Kunji, Kokora, Katam, Ondewari and Kotembe.

40. P.K. Mohapatra, *op.cit.*, pp. 203-212.

Encyclopaedia of Dravidian Tribes (Vol. III), while dealing with the myth of origin of Koyas, enlists the names of twelve sections that come under Mala subgroup of Koya tribe. The twelve sections are: Udu, Upa, Japa, Kante, Mudda, Madhyam, Kari, Pachi, Gunta, Maggam and Ganiga.⁴¹ It is surprising that all these names of the Mala subgroup of Koya tribe occur exactly or with a very negligible phonemic change within the toponymic corpus of Nigeria. The corresponding place names of Nigeria are: Udu; Upe; Upalu; Jaba; Kante; Muda; Madiya; Kari; Pechar; Gunta; Magama and Gani.

In the context of Koyas, these terms and designations are integral parts of their tribal identity and the possibilities for the external borrowing of these terms are remote. There are local interpretations and folk etymologies for these terms. For example, the Koya clan name Madkam is explained through the totemic figure Madakam, a fish. The Koyas, who belong to the totemic clan Madakam (or Madkam), use Madakami as their surname that reveals their clan affinity and the surname is an obvious derivation from the totemic clan name. Notwithstanding the real significance or etymology of the totemic clan name Madakami, the parallel occurrence of Madkami as a place name material in Koraput as well as in Nigeria provides new insight. There is a place called Madkami Guda in Koraput. Guda being the oft-repeated suffix the word 'Madkami' is obviously the specific element in the place name. Considering the fact that Madkami as an expression represents a Koya clan and is also being used as a Koya surname the specific element 'Madkami' in the place name Madkami Guda has to be interpreted as 'the settlement of Madkami clan'. This linkage between totem name, clan name and place name offers scope to take our probe close to the individual clans and clan members.

In fact, this superimposition of Koya ethnological terms on the toponymic corpus of Koraput, the current homeland of Koyas and that of Nigeria, offers some curious insights. While most of the terms that form part of the ethnological glossary of Koyas are found being used as toponymic materials in both the locations, there are certain terms used as elements of place names in Nigeria but not in Koraput.

For example, the exogamous clan names such as Karam, Padam, Sunnam, Sodi and lineage names such as Bogam, Karami, Napod, Oyami, Punyem, Weti and Wickalore that have comparable place names in Nigeria are not having such parallels in Koraput. This probably has a hidden message.

41. *Encyclopaedia of Dravidian Tribes*, Vol. III, *op.cit.*, p. 169.

The presence of such toponyms in Nigeria could be indicative of a 'pre-departure' past in the context of Africa, and their absence in Koraput could be simply interpreted as the lack of dominance of those particular exogamous clans and lineages.

A list of place names of Koraput derivable from the ethnonyms of Koya tribe are given in Table 3 and a map of Koraput showing the location of such places within Koraput district is given in Plate 4. Similarly, a list of place names of Nigeria showing close association with the ethnonyms of Koyas of Koraput is appended in Table 4 and a map of Nigeria indicating such occurrences is given in Plate 5.

The multiplicity of occurrence of key Koya ethnological terms and designations as toponyms in Nigeria encourages us to rule out the possibility of accidental coincidence. The fact that the toponymic corpus of Nigeria can throw further light to understand certain obscure terminologies not applied in the local toponyms of Koraput reveals the antiquity of such name transfers and offers clues to assess the direction and contours of such ancient migrations.

As the place names have an inherent capacity to survive the linguistic and geographical shifts, it may be difficult to draw conclusions on the ethnic and linguistic identities of the ancient carriers of the place names on the basis of the ethnic and linguistic identities of the tribe inhabiting those places currently. However, when it comes to the use of ethnonyms, we have reason to believe that the continuity is more or less guaranteed, for primitive tribes are not known to be giving up their own tribal designations in favour of a borrowed one. In fact, they tenaciously cling to their tribal identities, which they have inherited from their forefathers. Hence, considering the fact that the names of majority of the tribes of Koraput are derivable from the toponyms of Africa, it may be suggested that there exists an African layer in the multi-layered pluralistic foundation of the ethno-linguistic fabric of Koraput of Orissa. Having identified the existence of place names, tribe names, clan names, lineage names and surnames of Koya tribe in the toponymic corpus of Nigeria, we propose these identical place names to be the onomastic footprints of Afro-centric ancient waves of migration that might have taken place in the unknown past.

The fact that the ethnonyms connected to tribes of Koraput of varied linguistic affiliations occur as toponyms in Africa gives raise to various speculations: (1) It may be a fact that the distinct linguistic identities of these tribes had evolved even at the time of 'out of Africa' migration of

tribes into India, i.e. the present pluralistic nature of tribal demography existed even during those ancient times and such distinct identities have been preserved to date; (2) Considering the fact that compared to the migration of man and his origin, languages are of recent origin, it cannot be said for certain that the ancestors of the tribe who now speak Koya, a Dravidian language, spoke the same language at the time of migration, and there could have been linguistic conversions in between. However, we need to take into account the linguistic evidence regarding genetic relationship between the Dravidian and African languages cited earlier. In addition, the comparative toponymic evidences adduced through this paper need to be weighed against the backdrop of such earlier suggestions on the African origin of the Dravidians.

Koyas, the African name-bearers

There exists a close link between the anthroponyms - the names of the people and toponyms - the names of the places. Naming people by their place of origin was very useful in the formation of new surnames and the practice was widespread.⁴² It seems this practice had a near universal application. Notwithstanding exceptions, it is almost a thumb rule that "people with surnames derived from place names had ancestors who had lived in these places".⁴³ Surnames derived from toponyms are common among the Jews of various countries.⁴⁴ Abraham Stahl who has studied the Jewish Family Names and their association with the place names observes that the proliferation of geographical names that became family names occurred only after the bearer of the name left his domicile and moved to another place.⁴⁵ Alexander Beider's observation on Jewish surnames that the "appellations based on place names are formed not from the name of locality where the person lives, but from the name of the locality from which he came"⁴⁶ is relevant in the context of understanding the role the surnames can play in the study of ancient migrations. There are evidences in the Bible to show that people were called by the name of their city or country of origin as in the case of Yishai Bet-HaLichmi from Bethlehem or Yiftach HaGiladi from the region of Gilead.⁴⁷ There is a category of English surnames that originated in place names showing where a person or his ancestors

42. Ibid.

43. Alexander Beider, *A Dictionary of the Jewish Surnames from the Russian Empire*, Teaneck-Avotaynu, p. 22.

44. Alexander Beider, *op.cit.*, p. 21.

45. Abraham Stahl, *Jewish Family Names*, Tel Aviv: The Society for Jewish Family Heritage, 1985, p. 41.

46. Alexander Beider, *op.cit.*, p. 22.

47. Abraham Stahl, *op.cit.*, p. 32.

lived. "Just about every place name on a map of Britain will have produced a surname at some time, so long as the place name itself dates from pre-Conquest times", observes Adrian Room.⁴⁸ As in the case of surnames, personal names of the individuals are also derived from place names or places are named after the names of the individuals. Either way, the close association is obvious. In the contemporary Indian context as well, we come across names such as Chidambaram, Palani, Kasi, Elumalai, Danuskodi, Tirupathi, Tirumalai and so on, which denote place names as well as personal names.

We have a perfect case study to establish the association between the names of the place of origin or earlier settlement on the one hand and the surnames or family names and personal names of the immigrants on the other in the form of Parsi personal names and surnames, which have their exact parallels as toponyms in Iran. It is a well-known fact that the Parsis migrated into India, fleeing persecution in Persia. The immigrant Parsis established their settlements mostly on the west coast of India and it is observed that the names of the many Parsi settlements in India are the repeats of the place names of Iran, the ancient Persia. Similarly, the genesis of Parsi surnames or family names such as Tata, Nariman, Firdousi, Naorozji, Rustamji, Borji, Beramji, Daneshvar, Delawar and Palanji can be traced to the Iranian place names Tata, Nariman, Firdausi, Nauruzi, Rustam, Borj, Beram, Danesfan, Delavari and Palanj. Besides, there are many Parsi first names such as Gave, Jamshed, Manak and so on that can be traced to the toponyms Gaveh, Jamshid and Manak of Iran. Hence, it is clear that the immigrant people, be it Jews or Parsis, carried their ancestral place names to their new found homelands for reusing them, and they formed their personal and family names after those toponyms. The same thing seems to have happened in the case of Koyas as well, which we can demonstrate through a micro-study.

Primitive societies attach great importance to the names and the process of naming. The primitive people's faith in rebirth and their tradition of giving the child the name of dead ancestor is near universal.⁴⁹ The totemic name of a person in a primitive society is traditionally constant and this tendency to fixity is a step towards the family name and the generic name of the social and religious group.⁵⁰ It is relevant here to note that Koyas have the tradition of bestowing the name of the grandfather to the grandson.⁵¹ This tradition in a way guarantees stability of the names within

48. Adrian Room, *op.cit.*, p. viii.

49. James Hastings (Ed.), *Encyclopaedia of Religion and Ethics*, Vol. IX, Edinburgh: T. & T. Clark, 1967, p. 132.

50. James Hastings, *op.cit.*, p. 132.

51. P.K. Mohapatra, *op.cit.*, p. 203-212.

the community, and those names in a way attain immortality as a fossilized representation of an ancient past.

Iralgundi is a typical Koya village in Malkangiri located at 18°16'59 north latitude and 81°41'18 east longitude. The genesis of place name Iralgundi, a combination of 'Iral' - the specific element and 'gundi' - the generic element, can be traced to the toponyms Irele and Gunde of Nigeria. There is also a river called Irelu in Nigeria.

In Iralgundi village of Koraput, we find Koya males bearing various surnames such as Madkami, Madi, Wanjami, Rawa, Karami, Kawasi, Padiami, Padami, Sodi, Beke and Inga. Of these, Madkami, Sodi, Kabasi (Kawasi) and Padiami are more frequently used. There are 45 adult males in this village who use the surname Madkami and there are 44 persons with Sodi as surname. Padiami and Kabasi are used by 37 and 32 persons respectively.⁵² All these surnames can be traced to the toponyms Matagami, Made, Madia, Wanja, Rawo, Kawaje, Sodina, Beke and Inga of Nigeria. The hydronyms Karami of Nigeria can be linked to the surname Karami of Koyas and Oronymy Padam with the surname Padami. We come across Karku as a surname being used by at least 18 adult males in Village Materu. This surname can be traced to the toponym Karku of Nigeria. It cannot be mere coincidence that the place name Materu itself has its parallel in Materum of Nigeria. Incidentally, Materum is also the name of a hill in Nigeria. Surnames, by their very nature, run in families, so that they designate individuals who are known to be related.⁵³

It is surprising to note that not only the surnames of the Koyas but also many of their first names are also traceable to the place names of Nigeria. There are few Koyas who have, while retaining their traditional surnames, taken some Hindu names as their first name. However, those instances are very few. In Iralgundi, like in the case of other traditional Koya villages, we find most of the Koyas having their traditional names as first names. It cannot be mere coincidence that almost all those names occur as place names in Nigeria. An illustrative list of Koya first names of the males that can be linked to the toponyms of Nigeria are as follow (Nigerian place names are given within brackets). They are: Kasa (Kasa), Ganga (Ganga), Deba (Deba), Suka (Suka), Laka (Laka), Masa (Masa), Dare (Dare), Jaga (Jaga), Mala (Mala), Rama (Rama), Bandi (Bandi), Adama (Adama).

52. The data pertaining to the surnames, first names of Koya individuals - both male and female, refer to Koyas whose age is 21 and above as on 1.1.2004, and the data is based on the electoral list of the village concerned as on 1.1.2004.

53. Adrian Room, *op.cit.*, p. vi.

Kosa (Koso), Dira (Dira), Manga (Manga), Muka (Muko), Kesa (Kese), Sukra (Sukuru), Bhima (Bima), Aita (Aiyete), Anda (Ande), Sula (Sule), Soma (Somo), Irma (Iriama, Erema), Mangu (Mangule), Lati (Laute) and Unga (Ungawa, Unge).

Koya female names are no exception to this. It is a tradition among the Koya women to bear the surname of their husbands as their clan status changes on marriage. It is observed that the first names of the Koya women are formed by making change in the vowel-ending that is indicative of the gender. Generally, the 'a' ending in the male name changes into 'e' or 'i'-ending to form the name of a female. For example, the male name Ganga becomes female name Gangi and like wise Ura > Ure; Kesa > Kese; Muka > Muke; Rama > Rame; Sukra > Sukri; Laka > Lake; Unga > Ungi and so on. In Iralgundi, we find the Koya women bearing the following first names that occur as toponyms in Nigeria. An illustrative list of such names is as follows (the Nigerian place names are given within brackets): Bundi (Bundi); Muye (Muye); Mase (Mase); Dule (Dule); Mude (Mude); Male (Male); Kese (Kese); Adami (Adami); Babi (Babi); Bimi (Bimi); Soni (Soni); Ungi (Unge) and Gangi (Gangi Rani).

Between the first names and the family names or surnames, the first names are relatively more susceptible for change due to external influences and acculturation, whereas surnames have the tendency to survive. Among the Koyas, as indicated earlier, it is noticed that even those individuals with typical Hindu names such as Laksmikanta, Debananda, Dasaratha, Visvanatha and other fancy names such as Rakesh, Ranjan, Dilipkumar, Pradipkumar and so on have retained their surnames, which is indicative of Koya affiliation, intact. Thus, we come across names such as Viswanath Padiami and Sarasvati Padiami in Iralgundi. These surnames obviously run in the family, for the sons take the surname of their father. With the first name of females as well, the surname / family name of her husband gets added upon her marriage. Hence, the uninterrupted continuity in the use of these surnames within Koya tribe and its intimate link with the Koya identity is not in doubt.

The super imposition of Koya ethnonyms, surnames and personal names on the place names occurring in the Koya geography throws up certain interesting facts that confirm the validity of our approach. The survey, *Communities*, cited earlier, identifies Marabi as a surname of Racha Koya (Racha Koya is a synonym of Koya and Racha Koyas live in Andhra Pradesh and certain areas of Maharashtra). We do not come across Marabi

as a toponym or surname in Koraput, may be because people of that sub-group are not probably living in that area. However, we find Marabi as a place name in Nigeria, where we have identified numerous place names associated with the ethnonyms of Koyas. We can draw inference regarding the direction and nature of the migrations that propelled these name transfers from this trend. This points towards a greater diffusion of the immigrants from Africa upon their arrival in India and reliability of the place names as a marker for such diffusions.

Hence, we may propose that the Koya individuals - both men and women - whose tribe name, clan name and personal names and surnames are derivable from the toponyms of Nigeria as established through the case studies above, as the African name bearers of Koraput.

Migration of Gods?

It is not only that the names of the Koya villages, their ethnonyms including the names of the clans, their surnames and personal names are traceable in the toponymic corpus of Nigeria but also the names of their deities. Gods, godlings and ancestral spirits form part and parcel of the primitive world. The Koyas although having an exposure to the mainstream Hindu gods and goddesses still give primacy to the worship of their traditional deities and the ancestral spirits. Bhima, Korre, Potu, Mamili also called Pele are the deities venerated by the Koyas.⁵⁴ The application of these names to the place names of Koraput is evident from the toponyms Bimanpali, Bhimaguda, Potuguda, Potumpali, Pelanakona and Pelangrai. Similarly, in Nigeria, we come across Bima as the name of a place as well as the name of a hill. The place names Pele, Pelebosu and Pelemi remind us of Pele, the Koya deity. The place names Potun / Poto, Kore bear resemblance to Potu and Korre of Koya pantheon. Considering the fact that the names of the Koya pantheon of gods appear as place name materials in Nigeria as part of a thematic cluster, it is doubtful whether the Bima worshipped by the Koyas of Orissa and Andhra Pradesh as the progenitor of their tribe and the Bhima of the Mahabharata are one and the same, as made out to be.

The migratory routes

This leads us to another question. What could probably be the routes of such migrations? Did the ancient Africans take the coastal routes or traverse the land routes all through? The toponymy can offer some clues.

54 *Encyclopaedia of Dravidian Tribes*, Vol. III, *op.cit.*, p. 173.

which need not be a conclusive proof. This author's study of place names of Iraq, Iran, Afghanistan and Pakistan reveals the continuity in the occurrence of some place names, which are relevant in the context of the present study. As we have used the Koraput place names in general and Koya-related toponyms and ethnonyms as the markers to track the link, it is appropriate to look for the tell-tale evidences using the same markers.

The occurrence of the following place names, which are relevant, in different countries that lie in between Africa and India, deserve attention. The indicative list of such place names, country-wise, are: **Iraq**: Koya, Kawaz Wadi, Kawashah Wadi, Rawa, Gali and Alwa; **Iran**: Barekah, Kunjun, Karam, Karami, Vanjan, Bogan, Gaidagh, Karta, Wik, Gali, Tai, Daram, Jelau and Bandan; **Afghanistan**: Kawas, Kawase, Koyan Jare, Sunna, Gond, Kalmu Chak, Kartah, Pandaw, Tati, Weti, Gali, Lawar, Pital Darrahe, Motuni, Oyun and Kurram; **Pakistan**: Kawash, Madgamu Wala, Bareke, Karam, Karama, Sunnar, Wanjani, Wanjara, Vanjari, Sodi Bast, Sodi Wala, Gaidra, Gondi, Kunjah, Odigram, Pandar, Pandor, Punyal, Rawal, Teli, Wighamal, Wigwali, Gali, Gangal, Gangel, Lawar, Daram, Undh, Dare, Bandan, Kurram and Kokri. In India as well, this author has identified the connecting links in the form of place names occurring in different regions, before culminating in eastern India as demonstrated through the case studies of the toponyms of Koraput, and toponyms and ethnonyms associated with the Koya tribe. Establishing the link between the Dravidian-speaking tribes of India and Africa being the major thrust of this paper, mapping of the migrations that engineered such name transfers within India can be a theme for another article.

However, the facts remain that, to establish conclusively, the probable routes of migration, more focused micro-studies need to be done, covering the areas *en route* and evidences from Archaeology, Paleo-botany and Linguistics need to be gathered. Hence, our suggestion regarding a land-route for the ancient migrations from Africa to eastern India has to be a tentative one.

Onomastics as Human Genome: A road map for future research

"All of us are literally Africans underneath the skin, Brothers and Sisters separated by mere 2000 generations."⁵⁵ Recent collaborative studies

55. These were the concluding remarks of Spencer Wells, a scientist from Oxford, narrating the **Journey of Man** in his National Geographic Channel International Exclusive. Spencer Wells, who is working in the Wellcome Trust Centre for Human Genetics, Oxford University, has done a collaborative study with R.M. Pitchappan of the Department of Immunology, School of Biological Sciences, Madurai-Kamaraj University, cited in this paper."

between Madurai-Kamaraj University, India, and the Wellcome Trust Centre for Human Genetics, University of Oxford, U.K., has resulted in a discovery, identifying the first coastal migration of modern man (*Homo sapiens*) from Africa to Australia, through India, 50,000 years ago, and the second migration to Central Asia 45,000 years ago, which subsequently expanded in Central Asia and lead to dispersal towards Europe, Americas, South Asia and China. The genetic and migration history of man is imprinted in the Non-recombinant Y (NRY) chromosome of human genome, and one can identify the migration route and lineages, and determine the time of origin. The study that covered three populations, viz. Piramalai Kallars, Yadhavas and Sourastrians of Madurai, confirms the first coastal migration from Africa to Australia through South India.⁵⁶

If waves of migrations from Africa to India could be possible some 50,000 years ago, as proved by the human genomic studies, there should not be any problem in explaining the identical place name clusters of Africa and Orissa through the name transfer facilitated by similar human migrations during immemorial past. If genetics can be considered 'biological history' and NRY chromosome be the 'time-machine' that holds minute details of the migration history, then, in a similar vein, the identical place name clusters can be considered 'linguistic footprints' of ancient migrations. Ancient place names, which formed part of the baggage of the migrating populations and survived the geographical and linguistic shifts, can be treated as signposts or markers for the roots and routes of such ancient migrations in the past. The Koya individuals, whose tribe name, clan names, surnames and first names show oneness with the fossilized place names of Nigeria, can be considered as the bearers of a sort of 'linguistic D.N.A.' that would help us to mark them for a scientific genomic study. Then, probably, we may call the onomastics, which includes toponymy and anthroponomy as Human Genamics! The research in the fields of comparative toponymy and anthroponomy that deal with the well-preserved gene-pool of names can play a complementary role to genetics.

The felt need is for an inter-disciplinary study that would incorporate comparative ethnographic studies involving the tribal communities of Orissa and Africa covering all aspects of religion, beliefs and faith systems, rituals, myths, aspects of material culture, anthroponomy, toponymy, hydronymy, the patterns of tattooing, music and dance, herbalism, magic,

56. For further details, visit the home page of R.M. Pitchappan at <http://www.geocities.com/rdbgy>. Besides, his paper, "Origin of Dravidian and the Genomic Era" in the *Proceedings of the Silver Jubilee Celebrations of the International School of Dravidian Linguistics*, Thiruvananthapuram, 2002, may be referred to.

and so on. When Genomics takes input from our 'Genamics' to zero on the identical name clusters that can be linked to the specific tribal communities, we assume, the issue of African links of the tribes of India in general and Dravidian-speaking tribes in particular shall receive conclusive light. However, the overwhelming evidences available from the toponymic corpuses of Koraput and Nigeria, and the ethnonyms, surnames and personal names of Koyas seem more than adequate to propose an African origin to the Koyas, the Dravidian speakers.

Table 1
Identical Place Names of Nigeria (Africa) and Koraput (Orissa, India)

LC	NPN	Latitude	Longitude	LC	KPN	Latitude	Longitude
1	Abati	7D 12M 00S	3D 15M 00S	1	Abati	19D 8M 21S	83D 59M 38S
2	Abara	5D 4M 00S	7D 1M 00S	2	Abarada	19D 8M 21S	84D 00M 29S
3	Ada	7D 33M 00S	4D 16M 59S	3	Ada Put	18D 32M 58S	82D 42M 27S
4	Achalla	6D 19M 59S	6D 58M 59S	4	Achala Guma	19D 18M 7S	82D 41M 31S
5	Achuwa	7D 57M 00S	8D 46M 59S	5	Achava	19D 00M 52S	83D 24M 12S
6	Adobi	8D 19M 00S	8D 36M 00S	6	Adobai	19D 6M 00S	83D 42M 5S
7	Agi	7D 4M 59S	8D 58M 00S	7	Agi Panga	19D 36M 21S	83D 54M 24S
8	Agame	7D 51M 00S	10D 1M 00S	8	Agmipur	19D 13M 14S	82D 29M 53S
9	Ajayi	7D 39M 00S	4D 7M 00S	9	Ajaya Guda	19D 26M 24S	83D 15M 32S
10	Akura	9D 52M 00S	7D 52M 00S	10	Akuru	18D 33M 11S	81D 57M 30S
11	Alaka	7D 31M 59S	3D 40M 59S	11	Alaka Padar	18D 56M 25S	83D 11M 26S
12	Alama	8D 25M 59S	5D 1M 00S	12	Alama	17D 54M 19S	81D 22M 58S
13	Alasia	6D 25M 59S	3D 24M 00S	13	Alasi	18D 27M 1S	83D 1M 14S
14	Amata	6D 18M 00S	8D 18M 00S	14	Amata	19D 8M 6S	82D 27M 29S
15	Amba	6D 46M 59S	10D 55M 00S	15	Amba Lima	19D 39M 12S	83D 50M 39S
16	Amolor	7D 1M 59S	8D 49M 00S	16	Amola Bhota	19D 5M 33S	82D 20M 4S
17	Amula	7D 4M 59S	4D 00M 00S	17	Amola Bhota	19D 5M 33S	82D 20M 4S
18	Anakar	7D 19M 00S	8D 33M 00S	18	Anaka	19D 3M 12S	83D 24M 6S
19	Anaku	6D 28M 00S	6D 55M 59S	19	Anaka	19D 3M 12S	83D 24M 6S
20	Ancaro	12D 12M 11S	8D 38M 42S	20	Anchala	19D 3M 59S	82D 33M 42S
21	Andoor	7D 16M 59S	8D 40M 59S	21	Andori	18D 48M 3S	82D 20M 44S
22	Anga	6D 52M 59S	2D 49M 00S	22	Anga Raju	19D 50M 11S	83D 32M 39S
23	Angula	7D 4M 59S	8D 49M 59S	23	Ankula	19D 8M 20S	82D 22M 44S

24	Anguri	9D 41M 56S	10D 16M 27S	24	Anguru	19D 15M 56S	83D 23M 52S
25	Anka	9D 7M 59S	8D 34M 59S	25	Anka Deli	18D 29M 21S	82D 24M 50S
26	Anta	9D 27M 00S	8D 28M 00S	26	Anta Mara	19D 00M 41S	83D 20M 8S
27	Antere	6D 43M 59S	11D 1M 00S	27	Antri	19D 13M 26S	83D 18M 46S
28	Anu	7D 22M 00S	8D 37M 59S	28	Anu Guda	19D 18M 42S	83D 25M 55S
29	Arage	8D 21M 00S	8D 16M 00S	29	Aragel	18D 6M 48S	81D 57M 47S
30	Arakp	6D 34M 00S	8D 55M 59S	30	Arakusuni	18D 22M 42S	82D 00M 40S
31	Ariku	7D 30M 00S	4D 4M 59S	31	Arakusuni	18D 22M 42S	82D 00M 40S
32	Aribi	9D 34M 00S	7D 52M 00S	32	Aribi	19D 17M 48S	83D 30M 7S
33	Arku	7D 42M 00S	7D 34M 59S	33	Araku Suni	18D 22M 42S	82D 00M 40S
34	Arna	9D 25M 00S	8D 55M 59S	34	Arna	18D 35M 42S	82D 37M 54S
35	Asan	7D 19M 59S	8D 37M 00S	35	Asna	19D 8M 16S	82D 20M 9S
36	Ason	6D 34M 00S	3D 31M 00S	36	Asonga	19D 10M 1S	82D 21M 11S
37	Atanda	8D 6M 00S	4D 25M 59S	37	Atanda	18D 24M 43S	82D 37M 00S
38	Aun	8D 19M 59S	5D 19M 59S	38	Aunli	19D 12M 50S	82D 9M 50S
39	Babura	12D 46M 30S	9D 1M 4S	39	Baburu Guda	19D 47M 35S	83D 28M 59S
40	Badel	12D 3M 00S	11D 25M 00S	40	Badel	18D 28M 3S	82D 38M 7S
41	Bagam	12D 22M 18S	10D 32M 58S	41	Bagam	18D 50M 58S	83D 13M 8S
42	Bagare	12D 31M 00S	4D 40M 59S	42	Bagara	18D 53M 51S	82D 41M 3S
43	Bala	8D 24M 00S	4D 25M 00S	43	Bala	18D 43M 53S	83D 5M 48S
44	Balanga	9D 57M 00S	11D 36M 00S	44	Balanga	19D 9M 38S	82D 16M 50S
45	Balda	10D 9M 00S	12D 43M 59S	45	Balda	18D 26M 3S	82D 40M 12S
46	Bali	9D 18M 00S	11D 48M 00S	46	Bali Guda	18D 42M 56S	82D 29M 8S
47	Banda	7D 52M 59S	6D 45M 00S	47	Banda Gudi	19D 25M 51S	83D 45M 41S
48	Bandi	6D 31M 00S	9D 10M 00S	48	Bandi Guda	19D 00M 46S	82D 29M 21S
49	Bara	7D 31M 00S	3D 30M 00S	49	Bara	18D 40M 32S	82D 6M 47S
50	Bari	9D 52M 00S	8D 34M 59S	50	Bari	18D 49M 5S	82D 58M 14S
51	Bariga	12D 10M 00S	4D 39M 00S	51	Barigan	19D 7M 14S	83D 11M 2S
52	Belegan	8D 4M 59S	3D 46M 00S	52	Belgam	19D 5M 57S	82D 15M 34S
53	Ben	11D 55M 00S	6D 25M 00S	53	Benagam	18D 59M 47S	82D 39M 51S
54	Bendi	6D 31M 00S	9D 10M 00S	54	Bendi Put	18D 32M 18S	82D 36M 2S
55	Bena	11D 17M 3S	5D 56M 4S	55	Bena Dango	19D 4M 41S	83D 27M 48S
56	Bengo	9D 25M 00S	12D 43M 59S	56	Benagam	19D 00M 32S	82D 39M 36S
57	Benta	6D 40M 00S	8D 25M 59S	57	Benta Guda	19D 18M 46S	83D 48M 23S
58	Bera	9D 49M 59S	12D 34M 00S	58	Bera Padar	19D 11M 21S	82D 46M 36S
59	Beri	11D 19M 59S	4D 48M 00S	59	Berideli Guda	19D 30M 55S	83D 30M 18S

60	Beru	9D 27M 00S	3D 33M 00S	60	Beru Guda	19D 51M 16S	83D 29M 53S
61	Beta	11D 16M 00S	8D 54M 00S	61	Beta Padu	19D 17M 30S	83D 37M 5S
62	Bethel	5D 27M 00S	6D 16M 59S	62	Betal	19D 13M 14S	82D 25M 5S
63	Bichi	12D 14M 8S	8D 14M 21S	63	Bichi Kote	19D 14M 30S	83D 46M 53S
64	Bija	6D 52M 00S	9D 48M 00S	64	Bija Guda	18D 30M 11S	82D 42M 20S
65	Bila	10D 25M 59S	12D 3M 00S	65	Bila Mala	19D 3M 00S	83D 19M 54S
66	Bila	10D 34M 00S	12D 7M 00S	66	Bila Put	19D 3M 21S	83D 19M 30S
67	Billa	8D 55M 59S	12D 18M 00S	67	Billa Put	18D 30M 6S	82D 41M 44S
68	Billi	10D 28M 00S	5D 16M 00S	68	Billiesu	19D 00M 21S	83D 25M 37S
69	Bima	10D 51M 00S	11D 52M 00S	69	Biman Pali	18D 36M 6S	82D 12M 37S
70	Bina	8D 56M 59S	8D 55M 59S	70	Bina Pador	19D 3M 18S	83D 46M 35S
71	Bira	10D 39M 00S	6D 43M 59S	71	Bira Handi	19D 4M 41S	82D 33M 3S
72	Biri	10D 16M 59S	12D 57M 00S	72	Biri Guda	19D 6M 51S	82D 36M 39S
73	Bobbi	5D 46M 00S	5D 6M 00S	73	Bobiya	18D 59M 44S	82D 24M 28S
74	Boda	8D 40M 00S	3D 22M 00S	74	Boda Guda	18D 46M 40S	82D 23M 11S
75	Bodel	7D 27M 00S	11D 18M 00S	75	Bodel Jhara	19D 14M 13S	82D 58M 4S
76	Bodo	4D 37M 00S	7D 16M 00S	76	Bodo Golluru	18D 22M 19S	82D 54M 6S
77	Bokodo	5D 34M 59S	5D 40M 59S	77	Bokoda	19D 42M 39S	82D 5M 21S
78	Bomala	10D 37M 00S	10D 42M 00S	78	Bomel	18D 34M 53S	82D 28M 45S
79	Bondor Marsh	10D 18M 00S	12D 1M 59S	79	Bonda Guda	19D 14M 53S	83D 34M 8S
80	Boni River	8D 55M 59S	4D 16M 59S	80	Bonia	19D 7M 51S	82D 19M 3S
81	Bonu	9D 21M 00S	7D 00M 00S	81	Bonuru	18D 20M 15S	82D 1M 35S
82	Bori	4D 42M 00S	7D 21M 00S	82	Bori Guda	18D 36M 15S	82D 50M 40S
83	Boro	8D 30M 00S	4D 4M 59S	83	Boro Guda	19D 53M 53S	83D 25M 59S
84	Buda	10D 42M 00S	10D 13M 00S	84	Buda Guda	19D 26M 6S	83D 33M 21S
85	Budena	5D 18M 00S	8D 13M 00S	85	Budeni	19D 27M 56S	83D 16M 28S
86	Bukuru	8D 28M 59S	11D 7M 00S	86	Bukuru Muska	19D 29M 42S	83D 38M 57S
87	Buri	10D 1M 00S	10D 28M 00S	87	Buri Chara	19D 22M 32S	83D 13M 24S
88	Buru	7D 1M 00S	10D 52M 59S	88	Buru Deli	18D 30M 57S	82D 26M 21S
89	Busu	8D 55M 00S	6D 3M 00S	89	Busu Paka	18D 00M 21S	81D 49M 37S
90	Chambi	8D 54M 00S	12D 27M 00S	90	Champi	19D 1M 19S	83D 32M 39S
91	Chana	11D 27M 00S	11D 1M 59S	91	Chana Pukel	19D 10M 50S	83D 9M 11S

92	Chendam	7D 4M 00S	10D 49M 00S	92	Chenda	18D 41M 54S	82D 37M 45S
93	Chichi	7D 7M 59S	8D 43M 59S	93	Chichi Panga	19D 35M 2S	83D 52M 32S
94	Chikile	9D 19M 59S	12D 7M 00S	94	Chikili	19D 30M 2S	82D 24M 50S
95	Chiroma	10D 25M 59S	12D 33M 00S	95	Chiroma	19D 9M 38S	82D 22M 58S
96	Cholli	9D 6M 00S	12D 28M 00S	96	Chollar	18D 42M 55S	82D 57M 59S
97	Daba	11D 3M 00S	10D 00M 00S	97	Daba	18D 23M 48S	82D 38M 53S
98	Dabba	9D 18M 00S	5D 43M 00S	98	Dabba	18D 26M 48S	82D 44M 49S
99	Dabu	12D 13M 59S	4D 28M 00S	99	Dabugan	19D 26M 53S	82D 25M 1S
100	Dakari	11D 42M 00S	14D 18M 00S	100	Dakara	18D 54M 5S	82D 41M 45S
101	Dalama	11D 28M 59S	10D 58M 00S	101	Dalama	19D 16M 45S	84D 00M 33S
102	Dangara	8D 34M 59S	6D 52M 59S	102	Dangara	18D 56M 39S	82D 34M 36S
103	Dimlang	8D 24M 00S	11D 46M 59S	103	Dimla	18D 48M 15S	82D 33M 24S
104	Dongari	8D 22M 59S	4D 39M 00S	104	Dongari	18D 47M 58S	82D 47M 20S
105	Dugum	9D 40M 00S	9D 55M 59S	105	Dugam	18D 48M 34S	83D 13M 00S
106	Dumus	11D 31M 00S	9D 25M 59S	106	Dumusil	18D 51M 20S	83D 9M 11S
107	Edugi	9D 19M 00S	5D 13M 00S	107	Eduguma Valasa	18D 51M 7S	83D 18M 33S
108	Ejudiko	9D 9M 00S	5D 51M 00S	108	Eju Rupa	19D 44M 18S	83D 30M 37S
109	Eka	6D 7M 00S	8D 7M 59S	109	Eka Deli	19D 8M 12S	83D 11M 18S
110	Ekuri	5D 52M 59S	8D 7M 00S	110	Ekori	19D 21M 42S	82D 17M 4S
111	Elegba	8D 16M 00S	3D 16M 59S	111	Elaga Balsa	18D 54M 36S	83D 18M 34S
112	Elega	7D 55M 59S	4D 12M 00S	112	Elaga Balsa	18D 54M 36S	83D 18M 34S
113	Esoka	6D 39M 00S	8D 31M 00S	113	Eskodi	19D 15M 52S	83D 20M 35S
114	Esukotu	5D 1M 59S	8D 19M 00S	114	Eskodi	19D 15M 52S	83D 20M 35S
115	Gadabo	13D 40M 59S	5D 46M 59S	115	Gadaba	19D 29M 17S	83D 34M 48S
116	Gada	12D 16M 59S	6D 28M 59S	116	Gada Beda	18D 36M 59S	82D 21M 15S
117	Gadara	8D 39M 48S	7D 14M 40S	117	Gadara Padar	19D 21M 19S	83D 31M 14S
118	Gaji	8D 22M 00S	11D 1M 59S	118	Gaji Gam	19D 1M 6S	83D 33M 38S
119	Gala	11D 27M 00S	8D 56M 59S	119	Galaput	18D 34M 53S	82D 46M 23S
120	Galia	7D 16M 59S	10D 40M 59S	120	Galia Guda	18D 36M 45S	82D 00M 5S
121	Ganda	7D 1M 00S	8D 46M 59S	121	Ganda Gudi	19D 25M 23S	83D 55M 48S
122	Gande	7D 7M 00S	3D 58M 00S	122	Gandesi	19D 33M 5S	83D 55M 36S
123	Gandiga	10D 46M 59S	4D 37M 59S	123	Gandhigan	18D 39M 45S	82D 12M 54S
124	Ganga	10D 22M 00S	12D 3M 00S	124	Ganga Raj	18D 31M 9S	82D 57M 47S
125	Gardi	8D 40M 59S	5D 51M 00S	125	Garidi	19D 3M 33S	83D 17M 44S

126	Gimare	8D 28M 59S	8D 33M 00S	126	Gimarao	19D 24M 15S	83D 41M 44S
127	Gini	10D 00M 00S	6D 42M 00S	127	Ginipalli	18D 1M 32S	81D 32M 30S
128	Gobir	9D 16M 59S	8D 24M 00S	128	Gobiri	19D 26M 4S	83D 26M 00S
129	Gona	9D 49M 00S	8D 49M 00S	129	Gona	19D 57M 45S	82D 9M 24S
130	Gongo	11D 42M 00S	9D 57M 00S	130	Gongo	18D 57M 20S	83D 45M 41S
131	Gongo- lon	11D 55M 00S	13D 10M 59S	131	Gongola	18D 25M 54S	82D 2M 33S
132	Gongola River	8D 58M 59S	11D 55M 59S	132	Gongola	18D 25M 54S	82D 2M 33S
133	Gongola State	8D 30M 00S	11D 30M 00S	133	Gongola	18D 25M 54S	82D 2M 33S
134	Goni	10D 10M 00S	11D 12M 00S	134	Goni Put	18D 42M 25S	82D 23M 58S
135	Gora	9D 24M 00S	10D 46M 59S	135	Gora Handi	18D 51M 9S	82D 26M 34S
136	Gora River	9D 31M 59S	6D 34M 00S	136	Gora Handi	19D 51M 9S	83D 26M 34S
137	Guwal	10D 31M 00S	11D 55M 00S	137	Guali	19D 8M 16S	82D 19M 32S
138	Guma	12D 28M 00S	5D 1M 59S	138	Guma	19D 51M 43S	82D 31M 45S
139	Gummi	12D 8M 30S	5D 7M 26S	139	Gumi	19D 26M 36S	83D 49M 32S
140	Gundale	9D 34M 00S	11D 1M 59S	140	Gundalo	18D 49M 45S	82D 22M 31S
141	Gunji	10D 6M 00S	8D 33M 00S	141	Gunji	18D 43M 39S	82D 32M 47S
142	Gunjiji Hill	12D 19M 59S	4D 31M 59S	142	Gunji	19D 43M 39S	83D 32M 47S
143	Gunta	11D 3M 20S	9D 37M 55S	143	Guntha	18D 5M 53S	82D 22M 22S
144	Gur Gur	10D 40M 00S	12D 13M 59S	144	Gur Gura (Gudaguda)	18D 47M 51S	82D 20M 7S
145	Hemba- vor	7D 25M 59S	8D 31M 00S	145	Hembfru	19D 34M 14S	83D 37M 30S
146	Ichur	7D 34M 00S	10D 13M 59S	146	Ichapur	18D 48M 39S	83D 3M 45S
147	Idi	6D 46M 00S	7D 25M 59S	147	Idigunda	18D 00M 23S	81D 42M 15S
148	Idi River	7D 1M 59S	2D 55M 00S	148	Idigunda	18D 00M 23S	81D 42M 15S
149	Indigele	6D 33M 00S	8D 19M 59S	149	Indi Gura	19D 36M 20S	83D 46M 18S
150	Irele	6D 28M 59S	4D 52M 00S	150	Iral Gundi	18D 16M 59S	81D 41M 17S
151	Isaka	4D 44M 30S	6D 59M 21S	151	Iska Bande (Iskabandha)	18D 5M 26S	82D 18M 12S
152	Jaba	7D 52M 00S	11D 6M 00S	152	Jaba	18D 38M 21S	82D 17M 8S
153	Jaga	11D 54M 00S	7D 51M 00S	153	Jaga Munda	19D 14M 52S	83D 49M 21S
154	Jagana	11D 24M 00S	9D 45M 00S	154	Jaganathpur	19D 6M 38S	83D 26M 2S
155	Jago	7D 19M 00S	4D 5M 59S	155	Jago Gura	18D 50M 6S	83D 18M 52S
156	Jala	11D 45M 00S	11D 15M 00S	156	Jala	18D 54M 5S	83D 22M 8S

157	Jalima	10D 31M 59S	12D 21M 00S	157	Jaliama	19D 43M 45S	82D 22M 39S
158	Jamba	10D 21M 00S	12D 22M 00S	158	Jamba	19D 24M 43S	83D 38M 42S
159	Jampa	8D 58M 00S	12D 27M 00S	159	Jampara	19D 51M 43S	82D 32M 17S
160	Jariga	9D 19M 00S	6D 45M 00S	160	Jharigan	19D 44M 20S	82D 23M 24S
161	Kabite	7D 30M 00S	10D 19M 59S	161	Kabtti	18D 53M 8S	83D 18M 47S
162	Kache- llari	13D 1M 59S	11D 12M 00S	162	Kacheli	18D 30M 47S	81D 51M 42S
163	Kadama	10D 28M 00S	12D 25M 00S	163	Kadam	18D 37M 39S	82D 35M 44S
164	Kaku	9D 34M 59S	8D 46M 00S	164	Kakua	18D 27M 2S	82D 36M 45S
165	Kali	9D 51M 00S	4D 10M 00S	165	Kali Mela	18D 4M 57S	81D 42M 59S
166	Kali Hill	9D 52M 00S	4D 10M 00S	166	Kali Beda	19D 37M 14S	82D 3M 56S
167	Kalia	10D 16M 00S	6D 37M 00S	167	Kalia Guda	19D 19M 23S	83D 25M 14S
168	Kama- rawa	13D 6M 00S	6D 31M 59S	168	Kamara	19D 6M 18S	82D 34M 3S
169	Kandare	8D 36M 00S	8D 9M 00S	169	Kandara	18D 25M 26S	82D 44M 8S
170	Karanga	12D 49M 00S	9D 52M 59S	170	Karanga	18D 46M 41S	82D 36M 25S
171	Karanjo	11D 31M 00S	9D 43M 59S	171	Karanja	19D 21M 14S	83D 42M 3S
172	Karki	12D 12M 00S	6D 55M 59S	172	Karki	19D 16M 45S	82D 27M 6S
173	Kaseri	12D 34M 00S	12D 46M 59S	173	Kaseri	19D 53M 26S	83D 26M 6S
174	Kenda	6D 51M 00S	10D 19M 00S	174	Kendar	18D 51M 55S	82D 42M 20S
175	Kenda River	6D 51M 00S	10D 19M 00S	175	Kendar	18D 51M 55S	82D 42M 20S
176	Kendu	7D 18M 00S	10D 19M 00S	176	Kendu Guda	18D 48M 48S	82D 21M 38S
177	Kera	12D 5M 4S	8D 30M 56S	177	Kera Put	18D 40M 32S	82D 25M 5S
178	Kilar	10D 4M 00S	12D 22M 00S	178	Killar	18D 47M 24S	82D 55M 14S
179	Kinci	11D 16M 00S	10D 34M 00S	179	Kinchi Put	18D 40M 53S	82D 36M 33S
180	Kona	8D 56M 59S	11D 21M 00S	180	Kona	18D 24M 19S	82D 45M 56S
181	Kondor	7D 4M 00S	8D 41M 59S	181	Konadora	18D 40M 15S	83D 1M 48S
182	Konga	4D 20M 8S	6D 3M 16S	182	Konga	18D 58M 26S	82D 28M 36S
183	Kongo	7D 13M 00S	3D 28M 00S	183	Kongora	19D 41M 44S	82D 31M 3S
184	Konike	8D 3M 00S	4D 20M 59S	184	Koniki	19D 35M 17S	82D 29M 48S
185	Kono	4D 36M 00S	7D 30M 00S	185	Kono	19D 26M 33S	83D 35M 30S
186	Kopar	8D 56M 59S	9D 13M 59S	186	Kopara	18D 39M 19S	82D 6M 10S
187	Kora	10D 16M 00S	11D 52M 00S	187	Koraput	18D 47M 33S	82D 43M 5S
188	Kosu	6D 46M 59S	9D 33M 00S	188	Kosu	18D 53M 58S	83D 23M 35S
189	Kota	9D 36M 00S	12D 48M 00S	189	Kota	18D 52M 23S	82D 38M 57S
190	Koya	11D 52M 00S	7D 57M 00S	190	Koya Giri	18D 19M 19S	81D 41M 26S

191	Kuda	9D 12M 00S	7D 51M 00S	191	Kuda	18D 18M 6S	82D 37M 41S
192	Kuderi	10D 1M 59S	7D 19M 00S	192	Kudari	19D 23M 31S	83D 20M 39S
193	Kugu	10D 33M 00S	6D 37M 00S	193	Kugu Put	19D 12M 39S	83D 3M 45S
194	Kuli	11D 18M 00S	11D 7M 00S	194	Kuli	19D 12M 18S	83D 28M 48S
195	Kundum	7D 3M 00S	8D 54M 00S	195	Kundam	19D 5M 31S	83D 30M 34S
196	Kunduru	12D 24M 00S	7D 39M 00S	196	Kundura	18D 54M 11S	82D 24M 19S
197	Kusum	10D 31M 00S	13D 16M 00S	197	Kusumi	19D 8M 35S	82D 22M 9S
198	Kyanga	12D 22M 59S	3D 54M 00S	198	Kiang	18D 36M 48S	82D 7M 37S
199	Kyanga	13D 31M 00S	5D 10M 59S	199	Kiangi	18D 37M 9S	82D 30M 18S
200	Lade	8D 46M 00S	5D 37M 00S	200	Lade	19D 8M 8S	83D 58M 33S
201	Ladi Meji	8D 33M 00S	4D 25M 59S	201	Ladi Guda	18D 20M 44S	82D 12M 34S
202	Lai	8D 1M 00S	5D 49M 59S	202	Lai Katar	19D 8M 48S	82D 45M 37S
203	Lai River	10D 4M 00S	7D 19M 59S	203	Lai Katar	19D 8M 48S	82D 45M 37S
204	Lajere	11D 58M 57S	11D 26M 24S	204	Lajeri	19D 33M 5S	83D 42M 33S
205	Lakeri	10D 36M 00S	12D 1M 59S	205	Lakri Pal	19D 18M 23S	82D 39M 10S
206	Lakau	10D 21M 00S	10D 46M 59S	206	Lakku Badi	19D 10M 8S	83D 17M 48S
207	Lalere	7D 36M 00S	4D 1M 00S	207	Lalari	18D 39M 10S	82D 15M 41S
208	Lamba	7D 55M 59S	11D 24M 00S	208	Lamba	19D 35M 9S	83D 22M 50S
209	Lassa	10D 40M 59S	13D 16M 00S	209	Lasa	18D 36M 21S	82D 59M 54S
210	Lata	8D 40M 59S	5D 28M 00S	210	Lataput	18D 51M 24S	83D 00M 5S
211	Lau	9D 13M 00S	11D 16M 59S	211	Lau Mala	18D 46M 40S	83D 8M 24S
212	Lauru	11D 28M 00S	10D 28M 00S	212	Lauri Guda	18D 47M 49S	82D 37M 5S
213	Lele	7D 6M 00S	8D 31M 00S	213	Lelibadi	19D 26M 8S	83D 32M 21S
214	Lelekiri	4D 39M 59S	6D 46M 27S	214	Leliguma	19D 15M 5S	83D 13M 40S
215	Limawa	12D 19M 00S	9D 6M 00S	215	Limajodi	18D 36M 32S	82D 19M 45S
216	Limi Hills	10D 58M 00S	9D 3M 00S	216	Limika	18D 47M 51S	82D 46M 25S
217	Lobia	4D 40M 00S	5D 49M 00S	217	Lobba	19D 11M 45S	83D 52M 54S
218	Lokoro	7D 28M 00S	4D 12M 00S	218	Lokarli	18D 48M 36S	83D 20M 00S
219	Lōki	7D 10M 59S	3D 7M 00S	219	Lokigura	19D 13M 57S	82D 46M 27S
220	Loli	9D 30M 00S	12D 6M 00S	220	Lolegam	19D 42M 38S	82D 25M 27S
221	Lugel	11D 46M 59S	7D 15M 00S	221	Lugel	17D 58M 55S	81D 34M 22S
222	Luma	10D 22M 00S	10D 6M 00S	222	Luma Khari	18D 35M 26S	82D 23M 36S
223	Lundu	7D 52M 00S	7D 1M 00S	223	Lunduru Kona	19D 5M 20S	83D 19M 42S

224	Lungura	10D 9M 00S	13D 25M 00S	224	Lunguri	18D 40M 41S	82D 52M 58S
225	Machu	9D 3M 00S	8D 19M 59S	225	Machoput	18D 56M 16S	83D 00M 54S
226	Machi	9D 30M 00S	8D 41M 59S	226	Machiamba	18D 21M 33S	82D 5M 19S
227	Machari	12D 25M 59S	10D 40M 00S	227	Machara	18D 47M 29S	82D 39M 25S
228	Mada	8D 43M 00S	8D 18M 00S	228	Mada Gudi	19D 39M 33S	83D 41M 38S
229	Mada River	7D 58M 00S	7D 55M 00S	229	Mada Galu	19D 55M 3S	83D 28M 56S
230	Mado	10D 19M 00S	10D 49M 00S	230	Mado	19D 35M 35S	83D 36M 28S
231	Magun	12D 34M 59S	4D 34M 59S	231	Maguni	19D 42M 9S	83D 27M 24S
232	Majia	12D 54M 00S	5D 24M 00S	232	Majhia	19D 8M 34S	82D 33M 50S
233	Maji	12D 1M 00S	6D 27M 00S	233	Majhi Put	18D 34M 22S	82D 50M 42S
234	Makadi	12D 49M 00S	5D 18M 00S	234	Makidi	18D 45M 56S	83D 7M 5S
235	Makiya	12D 19M 59S	10D 31M 59S	235	Makia	19D 18M 51S	82D 27M 24S
236	Mala	7D 24M 00S	2D 58M 59S	236	Mala Guda	19D 27M 32S	83D 43M 4S
237	Mala River	7D 7M 59S	10D 36M 00S	237	Mala Padar	19D 10M 13S	83D 56M 38S
238	Mala-mabe	13D 4M 59S	10D 48M 00S	238	Malamba	19D 9M 19S	82D 58M 49S
239	Mal dau	10D 43M 00S	12D 6M 00S	239	Malda	19D 7M 8S	82D 32M 4S
240	Malet e	8D 4M 59S	4D 16M 59S	240	Maleti	19D 24M 29S	83D 41M 11S
241	Malgam	13D 40M 59S	5D 1M 00S	241	Malgam	19D 47M 44S	82D 33M 48S
242	Maliba	8D 40M 00S	12D 25M 59S	242	Malibel	18D 32M 48S	82D 41M 20S
243	Mando	10D 43M 00S	6D 34M 00S	243	Manda Guda	18D 50M 12S	82D 43M 41S
244	Man-dera	12D 31M 00S	4D 54M 00S	244	Mandra	19D 6M 39S	82D 48M 33S
245	Mangala	8D 40M 00S	12D 00M 00S	245	Mangal Pur	18D 48M 55S	83D 12M 3S
246	Mangar	9D 4M 00S	8D 43M 59S	246	Mangara	18D 50M 26S	82D 41M 21S
247	Mangel	7D 1M 00S	8D 55M 59S	247	Mangrel	18D 28M 13S	82D 42M 23S
248	Maniyo	12D 12M 00S	10D 25M 59S	248	Mania	18D 41M 54S	82D 54M 15S
249	Mani	12D 7M 59S	6D 45M 00S	249	Manigam	19D 27M 41S	82D 27M 42S
250	Manya	7D 19M 00S	10D 15M 00S	250	Manyam Konda	17D 56M 11S	81D 37M 57S
251	Marama	10D 25M 59S	12D 13M 00S	251	Marama	18D 57M 20S	83D 45M 16S
252	Maran	6D 12M 00S	4D 40M 00S	252	Maran Palli	18D 6M 32S	81D 40M 44S
253	Marka	11D 31M 59S	14D 16M 59S	253	Markar	18D 26M 26S	82D 59M 40S
254	Marlu	12D 46M 59S	12D 58M 59S	254	Marla	18D 35M 33S	82D 55M 50S
255	Maska	11D 19M 00S	7D 19M 59S	255	Maskana	19D 10M 10S	83D 4M 40S
256	Masuri	10D 15M 00S	10D 19M 00S	256	Masuri	18D 29M 18S	82D 36M 52S

257	Materum	9D 15M 00S	10D 55M 59S	257	Materu	18D 14M 29S	81D 34M 18S
258	Matale	7D 31M 00S	2D 55M 00S	258	Mathili	18D 32M 12S	82D 12M 6S
259	Mati	8D 39M 00S	4D 3M 00S	259	Mati Guda	18D 40M 27S	82D 8M 47S
260	Mauli	11D 31M 00S	12D 40M 00S	260	Mauli	19D 7M 12S	82D 31M 5S
261	Maya	6D 39M 00S	3D 34M 59S	261	Maya Bali	19D 33M 16S	83D 21M 51S
262	Maya Belwa	9D 3M 00S	12D 3M 00S	262	Maya Bali	19D 33M 16S	83D 21M 51S
263	Mede	6D 40M 00S	2D 46M 59S	263	Medi Put	18D 37M 10S	82D 42M 37S
264	Meke	7D 7M 59S	6D 15M 00S	264	Meka	18D 32M 35S	82D 3M 54S
265	Mekira	9D 33M 00S	6D 12M 00S	265	Mekara	18D 54M 34S	83D 16M 49S
266	Meringa	10D 43M 59S	12D 9M 00S	266	Meringi	19D 9M 15S	83D 51M 55S
267	Michi	7D 22M 59S	8D 37M 59S	267	Michia	19D 00M 54S	82D 22M 27S
268	Minji River	9D 13M 00S	6D 21M 00S	268	Minja	19D 23M 12S	82D 32M 35S
269	Miri	10D 19M 00S	9D 45M 00S	269	Miri Guda	19D 5M 38S	82D 23M 54S
270	Moko	8D 52M 59S	3D 7M 00S	270	Moko Gudi	19D 36M 38S	83D 44M 39S
271	Moku Hills	10D 22M 59S	11D 55M 00S	271	Moka Put	18D 52M 19S	82D 34M 32S
272	Monda Rafin	10D 46M 00S	13D 19M 59S	272	Monda Sil	18D 48M 56S	82D 32M 47S
273	Mongu	9D 31M 59S	9D 4M 59S	273	Mongo	18D 30M 27S	81D 57M 27S
274	More	6D 28M 10S	4D 30M 24S	274	More Palli	18D 29M 49S	81D 52M 36S
275	Moshi	9D 10M 59S	3D 31M 59S	275	Mosigam	19D 00M 56S	82D 19M 37S
276	Motugi	9D 00M 00S	6D 00M 00S	276	Motu	17D 50M 56S	81D 21M 59S
277	Mua	8D 46M 00S	3D 13M 59S	277	Mua Karu	18D 49M 8S	83D 19M 35S
278	Mua River	8D 48M 00S	3D 7M 59S	278	Mua Karu	18D 49M 8S	83D 19M 35S
279	Muchila	10D 19M 59S	13D 1M 00S	279	Muchili Gura	19D 36M 18S	83D 50M 44S
280	Muchu-rumbi	12D 39M 00S	8D 55M 00S	280	Muchu Kiras	18D 34M 26S	82D 2M 53S
281	Mudu	12D 3M 00S	14D 18M 00S	281	Muduguru	19D 3M 16S	83D 22M 6S
282	Muduru	13D 1M 59S	7D 49M 59S	282	Muduguru	19D 3M 16S	83D 22M 6S
283	Muko	8D 52M 59S	3D 7M 00S	283	Muka Guda	18D 28M 49S	82D 4M 27S
284	Muli	12D 16M 00S	12D 7M 59S	284	Muli Gura	19D 28M 33S	83D 47M 7S
285	Munda	10D 22M 00S	10D 49M 59S	285	Munda	19D 10M 57S	83D 56M 58S
286	Murke	9D 42M 00S	12D 31M 00S	286	Murkar	19D 3M 20S	83D 00M 52S
287	Musko	12D 37M 59S	8D 52M 00S	287	Muski	19D 15M 56S	83D 57M 27S

288	Nachi	6D 16M 59S	7D 19M 59S	288	Nachika Barangi	18D 46M 13S	83D 11M 17S
289	Naga	12D 22M 00S	14D 25M 00S	289	Naga Jodi	19D 30M 46S	82D 21M 1S
290	Nai	9D 28M 59S	9D 12M 00S	290	Nai Kera	18D 56M 29S	82D 24M 51S
291	Nakoto	12D 9M 00S	6D 55M 59S	291	Nakiti	19D 2M 42S	83D 14M 34S
292	Nando	6D 19M 00S	6D 55M 59S	292	Nandapur	18D 32M 49S	82D 44M 16S
293	Nandu	9D 13M 59S	8D 31M 00S	293	Nandi	19D 31M 39S	83D 37M 36S
294	Nara	6D 13M 00S	7D 39M 00S	294	Naragan	19D 4M 9S	82D 50M 00S
295	Nor	7D 25M 00S	8D 34M 59S	295	Norora	19D 27M 46S	83D 25M 5S
296	Nosiru	7D 12M 00S	4D 00M 00S	296	Nossigam	18D 48M 55S	82D 25M 15S
297	Nienga River	7D 7M 00S	8D 56M 59S	297	Nialenga	18D 35M 8S	82D 35M 7S
298	Nike	8D 42M 42S	7D 53M 35S	298	Nikesh	19D 27M 11S	83D 4M 8S
299	Nilo	12D 12M 00S	12D 22M 59S	299	Nila Bari	18D 56M 27S	83D 16M 53S
300	Nisama	9D 30M 00S	8D 28M 59S	300	Nishar	18D 59M 29S	83D 7M 10S
301	Nissin	7D 28M 00S	10D 19M 59S	301	Nisina Pakhna	18D 45M 00S	82D 17M 29S
302	Oda	7D 6M 00S	5D 16M 59S	302	Oda Badi	19D 30M 29S	83D 19M 4S
303	Oda River	6D 27M 00S	6D 48M 00S	303	Oda Jal	19D 16M 36S	82D 58M 57S
304	Odangbe	7D 3M 00S	8D 31M 00S	304	Odangaska	19D 15M 42S	83D 41M 40S
305	Odesaka	8D 15M 00S	4D 25M 59S	305	Odasi	19D 2M 58S	83D 20M 21S
306	Odi	5D 34M 00S	5D 43M 00S	306	Odi Jambo	19D 53M 7S	83D 26M 35S
307	Odi Modi	5D 19M 00S	5D 22M 59S	307	Odimaska	19D 53M 26S	83D 27M 10S
308	Odonigi	8D 41M 59S	4D 22M 59S	308	Odingi	19D 39M 43S	83D 52M 27S
309	Odusi	7D 44M 38S	3D 59M 47S	309	Odasi	19D 2M 58S	83D 20M 21S
310	Oduro	6D 58M 00S	3D 16M 00S	310	Odra	19D 25M 12S	83D 41M 6S
311	Odooro	7D 49M 00S	5D 31M 00S	311	Odra	19D 25M 12S	83D 41M 6S
312	Odu	5D 7M 00S	8D 6M 00S	312	Odu Guda	19D 21M 39S	83D 23M 20S
313	Oduru	7D 49M 59S	7D 3M 00S	313	Odra	19D 25M 12S	83D 41M 6S
314	Ora	6D 28M 00S	5D 36M 00S	314	Ora Biri	18D 31M 22S	82D 34M 33S
315	Oria	6D 25M 00S	5D 40M 59S	315	Oria Pata	18D 53M 17S	83D 10M 27S
316	Oriah	5D 46M 00S	6D 3M 00S	316	Oria Pata	18D 53M 17S	83D 10M 27S
317	Orya	7D 16M 59S	8D 43M 00S	317	Oria Pentha	19D 3M 14S	83D 7M 36S
318	Pada	11D 58M 59S	7D 54M 00S	318	Pada Guda	18D 30M 48S	82D 7M 46S
319	Padam Hills	10D 45M 00S	11D 58M 00S	319	Padamapur	19D 20M 54S	83D 1M 50S

320	Padaro Lake	9D 12M 00S	12D 40M 59S	320	Padara Palli	18D 28M 12S	82D 38M 26S
321	Paida Lake	9D 12M 00S	12D 40M 59S	321	Paida Palli	19D 15M 6S	82D 12M 38S
322	Paiko	9D 25M 59S	6D 37M 59S	322	Paika Jodi	19D 22M 14S	83D 25M 46S
323	Paiko	9D 25M 59S	6D 37M 59S	323	Paika Poda	19D 20M 11S	83D 24M 33S
324	Pakka	10D 6M 00S	13D 13M 59S	324	Paka Basa	18D 39M 42S	82D 22M 9S
325	Pako	8D 43M 00S	6D 34M 59S	325	Paka Basa	18D 39M 42S	82D 22M 9S
326	Palade	9D 13M 59S	12D 25M 59S	326	Palada Put	18D 35M 35S	82D 30M 36S
327	Palama	9D 58M 59S	9D 18M 00S	327	Palama	19D 21M 30S	83D 43M 00S
328	Panti	9D 13M 00S	5D 40M 00S	328	Pandi	18D 44M 40S	82D 39M 46S
329	Papiri	10D 37M 59S	4D 31M 00S	329	Papara Hondi	19D 20M 34S	82D 31M 36S
330	Para	7D 30M 00S	4D 3M 00S	330	Parabadi	18D 50M 00S	82D 12M 34S
331	Pena	10D 34M 00S	6D 51M 00S	331	Penakaru	19D 39M 47S	83D 51M 18S
332	Pendi	9D 10M 00S	12D 13M 59S	332	Pendili	19D 8M 31S	83D 19M 32S
333	Pongu	9D 58M 00S	6D 18M 00S	333	Pongali	19D 27M 10S	83D 37M 50S
334	Poroto	9D 43M 00S	12D 46M 00S	334	Porata	18D 30M 7S	82D 39M 5S
335	Popoola (Popo Ola)	7D 40M 27S	3D 53M 2S	335	Papulur	18D 2M 38S	81D 57M 37S
336	Potoro	8D 46M 59S	5D 15M 00S	336	Poteru	17D 57M 3S	81D 42M 13S
337	Potis-kum	11D 42M 42S	11D 4M 10S	337	Potesk	19D 22M 46S	83D 11M 13S
338	Pupule	9D 3M 00S	11D 36M 00S	338	Papulur	18D 2M 38S	81D 57M 37S
339	Rada	8D 42M 37S	7D 4M 33S	339	Rada	18D 28M 55S	82D 50M 45S
340	Raduna	7D 57M 00S	8D 36M 00S	340	Radu	19D 15M 29S	83D 47M 26S
341	Ragum	11D 39M 00S	5D 37M 59S	341	Ragura	19D 30M 6S	83D 46M 24S
342	Raha	10D 19M 59S	5D 4M 59S	342	Rahaguda	19D 31M 54S	83D 53M 42S
343	Rai	12D 43M 59S	8D 49M 00S	343	Raibiji	19D 34M 23S	83D 45M 38S
344	Rama Hill	10D 51M 00S	5D 39M 00S	344	Rama Giri	19D 22M 50S	82D 57M 46S
345	Ramani	12D 6M 00S	9D 25M 00S	345	Ramana	19D 35M 35S	83D 37M 31S
346	Ramba	12D 27M 00S	3D 52M 00S	346	Rambhu	19D 25M 18S	83D 33M 55S
347	Rambe	8D 40M 59S	11D 43M 00S	347	Rambhi	19D 20M 11S	83D 41M 12S
348	Rango	12D 22M 00S	4D 31M 59S	348	Ranga Jori	18D 47M 22S	83D 2M 53S
349	Rani	8D 45M 00S	5D 40M 00S	349	Rani Guda	18D 59M 22S	82D 23M 3S
350	Rantan	11D 31M 00S	8D 22M 59S	350	Ranta	18D 20M 3S	82D 39M 43S
351	Rapawa	10D 1M 00S	10D 13M 00S	351	Rappa	19D 7M 5S	83D 21M 45S

352	Rawo	9D 52M 59S	6D 19M 00S	352	Rava	18D 18M 57S	82D 13M 59S
353	Raya	11D 16M 00S	8D 45M 00S	353	Raya Gada	19D 9M 49S	83D 24M 19S
354	Reda	8D 42M 37S	7D 4M 33S	354	Redal	19D 55M 12S	83D 26M 20S
355	Rego	12D 22M 59S	8D 51M 00S	355	Regada	19D 3M 45S	83D 15M 2S
356	Rodeye	7D 19M 59S	3D 10M 00S	356	Rada	18D 29M 30S	82D 51M 12S
357	Rukuba	9D 57M 00S	8D 43M 00S	357	Rukuba	18D 28M 6S	82D 46M 4S
358	Rutu	8D 25M 59S	8D 13M 00S	358	Rutu Pai	19D 4M 42S	83D 19M 00S
359	Sabli	12D 13M 59S	5D 49M 00S	359	Sabili Nalo	19D 44M 29S	83D 33M 14S
360	Sabon	9D 49M 00S	6D 19M 59S	360	Sabun	18D 26M 3S	82D 33M 47S
361	Sada	11D 6M 00S	7D 16M 00S	361	Sada Lasa	19D 26M 53S	83D 14M 2S
362	Sadura	13D 39M 00S	4D 25M 59S	362	Sadaram	18D 20M 56S	82D 20M 41S
363	Sai	7D 34M 00S	9D 54M 00S	363	Sailuru	17D 57M 38S	81D 43M 5S
364	Sakara	7D 22M 00S	2D 46M 00S	364	Sakara Baju	19D 25M 35S	83D 53M 49S
365	Salabo	6D 40M 00S	3D 37M 59S	365	Salapa	19D 14M 11S	82D 43M 31S
366	Salami	7D 18M 00S	4D 27M 00S	366	Salimi	18D 36M 5S	82D 3M 10S
367	Samana	4D 34M 00S	7D 22M 00S	367	Samana	18D 48M 42S	83D 8M 6S
368	Sanga	9D 6M 00S	11D 37M 00S	368	Sanga Balasa	19D 51M 15S	83D 27M 32S
369	Sangam	8D 28M 00S	11D 58M 59S	369	Sangam Guda	18D 40M 8S	82D 16M 44S
370	Sangela	13D 4M 59S	4D 19M 00S	370	Sangel	18D 8M 17S	81D 40M 22S
371	Sankara	7D 31M 59S	9D 39M 00S	371	Sankar	18D 28M 54S	82D 52M 32S
372	Sangar	10D 4M 00S	10D 19M 59S	372	Sankar	18D 28M 54S	82D 52M 32S
373	Sangaro	10D 51M 00S	11D 27M 00S	373	Sankar	18D 28M 54S	82D 52M 32S
374	Sangeri	7D 16M 00S	10D 7M 59S	374	Sankari	19D 14M 11S	83D 58M 53S
375	Sankara	7D 31M 59S	9D 39M 00S	375	Sankarada	19D 9M 16S	82D 30M 47S
376	Sapa	8D 9M 00S	5D 19M 59S	376	Sapai	19D 24M 34S	83D 12M 14S
377	Sara	5D 37M 00S	5D 15M 00S	377	Sarabali	19D 40M 58S	83D 28M 4S
378	Sata	8D 22M 00S	4D 22M 00S	378	Sata	19D 19M 54S	83D 57M 32S
379	Sauro	11D 21M 00S	7D 45M 00S	379	Saura Guda	19D 31M 50S	83D 30M 38S
380	Sawa	8D 41M 59S	11D 52M 00S	380	Sawa Mari	18D 44M 26S	83D 6M 29S
381	Siba	7D 22M 35S	3D 47M 00S	381	Siba Padar	19D 43M 31S	83D 29M 24S
382	Sikali	10D 9M 00S	13D 3M 00S	382	Sikala	19D 7M 22S	83D 42M 11S
383	Simma	7D 58M 00S	8D 49M 00S	383	Seema	19D 11M 40S	83D 58M 44S
384	Sindi	8D 55M 59S	11D 10M 59S	384	Sindhigam	18D 49M 24S	82D 17M 17S
385	Sindi	8D 55M 59S	11D 10M 59S	385	Sindhi Giri	19D 55M 35S	83D 31M 27S

386	Sindiri	11D 13M 00S	5D 00M 00S	386	Sindheri	18D 40M 30S	83D 3M 30S
387	Sindiri	11D 15M 00S	4D 58M 00S	387	Sindhri Mala	18D 24M 23S	81D 55M 17S
388	Sinko	7D 26M 6S	3D 45M 6S	388	Singo	18D 20M 15S	82D 14M 8S
389	Siri	10D 37M 59S	10D 13M 00S	389	Siri Guda	18D 51M 47S	83D 13M 40S
390	Siri Hill	10D 31M 00S	9D 46M 00S	390	Siri Peta	18D 24M 39S	82D 6M 2S
391	Siri Pori	8D 26M 59S	11D 28M 00S	391	Siripur	19D 26M 34S	83D 57M 10S
392	Somolu	6D 34M 59S	3D 28M 00S	392	Somili	18D 26M 45S	82D 38M 8S
393	Sukuru	7D 30M 00S	4D 5M 59S	393	Sukra Put	19D 00M 46S	82D 53M 29S
394	Suri	12D 3M 20S	8D 21M 12S	394	Suri	19D 15M 59S	83D 28M 45S
395	Suri River	12D 3M 20S	8D 21M 12S	395	Suri	19D 15M 59S	83D 28M 45S
396	Suru	9D 4M 59S	3D 9M 00S	396	Suru Bali	19D 12M 48S	83D 12M 33S
397	Suti	13D 19M 59S	4D 58M 00S	397	Suti Podar	19D 4M 59S	82D 16M 4S
398	Sutumi Hills	10D 12M 00S	9D 18M 00S	398	Sutu Gandhi	18D 12M 6S	82D 13M 1S
399	Tabarau	10D 38M 26S	7D 17M 7S	399	Tabero	18D 22M 44S	82D 19M 32S
400	Tabela	10D 58M 00S	9D 25M 59S	400	Tabala Guda	18D 23M 6S	82D 15M 42S
401	Tada- gona	9D 19M 59S	6D 10M 59S	401	Tadava	18D 26M 39S	82D 35M 47S
402	Tade	7D 25M 13S	3D 45M 7S	402	Tada	19D 27M 51S	83D 38M 17S
403	Tali	8D 49M 59S	12D 30M 00S	403	Talilata	19D 21M 6S	83D 40M 50S
404	Tama	10D 19M 00S	12D 4M 00S	404	Tama	18D 32M 16S	82D 33M 10S
405	Tami	10D 46M 59S	7D 27M 00S	405	Tamili	18D 52M 37S	82D 51M 33S
406	Tanda	9D 25M 59S	8D 10M 59S	406	Tanda	19D 17M 36S	82D 36M 27S
407	Tanda- bikum	7D 13M 00S	10D 10M 59S	407	Tandabi	17D 58M 53S	81D 30M 20S
408	Tandi	10D 45M 00S	9D 55M 59S	408	Tandi Konda	18D 13M 54S	81D 57M 43S
409	Tanga	9D 58M 00S	12D 10M 00S	409	Tangapali	18D 33M 17S	81D 56M 48S
410	Tanko	7D 18M 00S	10D 51M 00S	410	Tanku	18D 56M 56S	83D 22M 24S
411	Tapa	6D 30M 00S	2D 49M 00S	411	Tapa Guda	18D 24M 6S	82D 2M 6S
412	Tapa River	9D 15M 00S	7D 1M 59S	412	Tapa Podar	18D 45M 51S	83D 00M 34S
413	Tara	13D 28M 00S	6D 22M 00S	413	Tarabil	19D 7M 1S	84D 1M 22S
414	Taram	8D 43M 59S	9D 9M 00S	414	Taramu	19D 00M 29S	83D 29M 18S
415	Tashok	9D 34M 59S	8D 46M 59S	415	Tasaki	19D 17M 9S	83D 40M 9S
416	Tati	7D 16M 59S	10D 9M 00S	416	Tati Pari	18D 3M 00S	82D 13M 48S

417	Tati River	7D 48M 00S	10D 25M 59S	417	Tati Beda	18D 52M 54S	82D 32M 12S
418	Tayo	11D 55M 59S	11D 4M 00S	418	Taya Put	18D 57M 56S	83D 4M 30S
419	Tede	8D 33M 00S	3D 27M 00S	419	Tedda	18D 25M 50S	83D 00M 2S
420	Tela	7D 43M 41S	3D 46M 5S	420	Telal	18D 6M 6S	82D 18M 41S
421	Tokolo	9D 19M 00S	7D 28M 59S	421	Thokal	18D 38M 45S	82D 31M 27S
422	Tile	7D 7M 59S	8D 54M 00S	422	Tileru	19D 10M 9S	83D 17M 12S
423	Tonde	10D 21M 00S	11D 10M 00S	423	Tonde Palli (Tondapali)	18D 31M 14S	81D 54M 11S
424	Tongo	10D 7M 00S	13D 10M 59S	424	Tongo Guda	18D 26M 43S	81D 48M 24S
425	Tongo	10D 9M 00S	13D 7M 00S	425	Tongo Roma	19D 26M 21S	83D 53M 57S
426	Tope	8D 28M 00S	4D 19M 00S	426	Topi Pador	19D 22M 49S	83D 51M 57S
427	Tosa	7D 44M 20S	3D 58M 44S	427	Tosaka Padu	19D 13M 50S	83D 21M 39S
428	Tosko-rom	12D 39M 00S	13D 6M 00S	428	Tosaka Padu	19D 13M 50S	83D 21M 39S
429	Toto	8D 22M 44S	7D 5M 3S	429	Totapada	18D 37M 00S	82D 27M 10S
430	Tudu	9D 42M 00S	11D 4M 00S	430	Tudu Leliri	18D 58M 45S	83D 14M 17S
431	Tuje	11D 46M 59S	9D 42M 00S	431	Tujer	19D 24M 5S	82D 59M 6S
432	Tulas	13D 19M 00S	4D 13M 00S	432	Tulasi	18D 40M 28S	82D 00M 50S
433	Tulen	7D 10M 00S	8D 37M 00S	433	Tulen Guda	18D 31M 40S	81D 57M 50S
434	Tumba	10D 1M 00S	12D 25M 00S	434	Tumba	19D 14M 15S	83D 36M 21S
435	Tumbi	7D 30M 00S	4D 18M 00S	435	Tumbi Tarai	19D 18M 28S	83D 18M 14S
436	Tum-bulla	13D 13M 00S	5D 40M 00S	436	Tumberla	19D 22M 42S	82D 34M 36S
437	Tumuna	13D 25M 59S	4D 58M 59S	437	Tumuda	19D 59M 16S	81D 52M 27S
438	Ture	7D 3M 00S	8D 41M 59S	438	Turi Guda	19D 36M 12S	83D 35M 25S
439	Turunku	10D 49M 00S	7D 40M 59S	439	Turuku	18D 55M 27S	83D 23M 11S
440	Ubaka	10D 33M 00S	4D 46M 00S	440	Uapaka	19D 6M 45S	83D 33M 6S
441	Uchi	7D 4M 59S	8D 58M 00S	441	Uchi Muchi	19D 53M 17S	83D 26M 21S
442	Uchu	6D 49M 59S	8D 49M 59S	442	Uchu Kumba	19D 39M 6S	83D 24M 51S
443	Uda	4D 40M 00S	8D 11M 59S	443	Uda Pada	18D 32M 35S	82D 29M 44S
444	Ude	7D 12M 00S	8D 34M 00S	444	Ude Giri	18D 39M 16S	82D 7M 32S
445	Udei	8D 4M 00S	8D 31M 00S	445	Udaygiri	18D 6M 2S	81D 32M 39S
446	Udu	9D 45M 00S	8D 52M 59S	446	Udupa	18D 32M 34S	81D 55M 45S

447	Udubo	11D 56M 22S	10D 38M 17S	447	Udupa	18D 32M 34S	81D 55M 45S
448	Uki	9D 4M 59S	12D 34M 00S	448	Ukia Palli	19D 8M 29S	82D 12M 47S
449	Uki Hill	9D 4M 59S	12D 31M 59S	449	Ukia Palli	19D 8M 29S	82D 12M 47S
450	Ukambo	11D 1M 00S	6D 21M 00S	450	Ukkamba	19D 10M 21S	83D 47M 43S
451	Uli	5D 46M 59S	6D 52M 00S	451	Ulimanga	19D 16M 18S	83D 29M 00S
452	Umara	12D 57M 00S	5D 7M 59S	452	Umarkote	19D 39M 46S	82D 13M 6S
453	Umari	11D 22M 59S	12D 43M 59S	453	Umari Guda	18D 43M 36S	82D 31M 5S
454	Umaru	11D 22M 59S	8D 11M 59S	454	Umar Gan	19D 12M 42S	82D 10M 26S
455	Umura	12D 57M 00S	5D 7M 59S	455	Umuri	18D 46M 31S	82D 40M 6S
456	Uru	11D 43M 00S	4D 27M 00S	456	Uru Bheli	17D 55M 41S	81D 28M 41S
457	Usa	9D 58M 59S	6D 6M 00S	457	Usa Bali	19D 20M 39S	83D 11M 2S
458	Usaka	5D 16M 59S	7D 33M 00S	458	Usaka Pali	18D 9M 28S	81D 41M 39S
459	Ushi	7D 52M 00S	5D 10M 00S	459	Usigan	19D 24M 34S	82D 38M 21S
460	Usi	7D 52M 00S	5D 10M 00S	460	Usigan	19D 24M 34S	82D 38M 21S
461	Utoka	6D 22M 00S	5D 31M 00S	461	Utaka Padu	19D 12M 19S	83D 29M 34S
462	Wallaga	9D 4M 00S	12D 13M 00S	462	Walagay	18D 30M 36S	83D 2M 24S
463	Warda	12D 37M 00S	8D 49M 00S	463	Warda	19D 7M 22S	83D 35M 49S

[LC = Location Code; NPN = Nigerian Place Name; KPN = Koraput Place Name]

Table 2
The Tribe Names of Koraput (Orissa, India) as Place Names in Nigeria (Africa)

SN	KE	NPN	Latitude	Longitude
1	Koya	Koya	7D 57M 00S	11D 52M 00S
2	Gadaba	Gadabo	5D 46M 59S	13D 40M 59S
3	Bondo	Bondor Marsh	12D 1M 59S	10D 10M 00S
4	Dharua	Darowa	8D 51M 00S	9D 31M 00S
5	Dharua	Darawa	7D 28M 59S	12D 28M 59S
6	Duruva	Durwa	11D 21M 00S	11D 34M 00S
7	Dal	Dal	9D 58M 00S	9D 30M 00S
8	Baiga	Baiga Suwa	6D 9M 00S	12D 28M 00S
9	Didayi	Dida	6D 43M 59S	8D 25M 59S
10	Kondo Dora	Kondo	3D 19M 00S	7D 34M 59S
11	Gondo	Gonda	11D 51M 00S	10D 46M 59S
12	Banjara	Banja	12D 22M 59S	8D 37M 59S

13	Banjara	Baniaram	12D 00M 00S	9D 49M 00S
14	Gandia	Gandi	5D 45M 00S	12D 58M 00S
15	Bathudi	Baturi	8D 22M 59S	11D 10M 59S
16	Bhuiya	Buyi	6D 42M 00S	9D 22M 59S
17	Bhuyan	Buya River	8D 43M 59S	10D 49M 59S
18	Binjhal	Binjel Sabarumowa	4D 28M 00S	13D 12M 00S
19	Binjhal	Binji	4D 55M 00S	13D 13M 00S
20	Ghara	Gara	6D 4M 59S	9D 13M 00S
21	Kawar	Kawara	7D 21M 00S	10D 49M 59S
22	Kharia	Karia	11D 10M 00S	11D 43M 00S
23	Kisan	Kisa	6D 58M 00S	10D 10M 59S
24	Kolah Loharas	Kola	4D 30M 00S	7D 27M 00S
25	Koli	Koli	11D 24M 00S	10D 31M 00S
26	Kora	Kora	11D 52M 00S	10D 16M 00S
27	Korua	Korawa	8D 44M 31S	12D 6M 57S
28	Kulis	Kuli	11D 7M 00S	11D 18M 00S
29	Kulis	Kulli	4D 18M 00S	11D 13M 59S
30	Lodha	Lodo	3D 30M 00S	7D 7M 00S
31	Madia	Madia	12D 9M 00S	10D 37M 59S
32	Mankirdia	Mankera	4D 54M 00S	12D 31M 00S
33	Mankirdia	Mankeri	5D 4M 59S	13D 1M 00S
34	Mankidi	Mangeti	11D 37M 59S	7D 16M 59S
35	Munda	Munda	10D 49M 59S	10D 22M 00S
36	Oraon	Oran	4D 13M 00S	7D 12M 00S
37	Omanatya	Omenama	6D 39M 18S	4D 50M 17S
38	Paroja	Paruji	12D 43M 00S	10D 16M 59S
39	Rajuar	Rajau Hairi	9D 6M 00S	11D 55M 00S
40	Santal	Santalma	11D 16M 00S	11D 33M 00S
41	Saora	Sauro	7D 45M 00S	11D 21M 00S
42	Saura	Sauri	6D 46M 59S	11D 43M 59S
43	Sabar	Sabaru	9D 7M 00S	11D 58M 00S
44	Savara	Sabaru	6D 46M 59S	12D 11M 9S
45	Sahara	Saghara	5D 15M 00S	5D 37M 00S
46	Tharua	Tarawa	3D 58M 00S	11D 34M 59S
47	Tharua	Taruwa	4D 19M 59S	8D 19M 00S

Table 3
The Ethnonyms of Koyas as Place Names in Koraput (Orissa, India)

SN	KD	Category	KPN	Latitude	Longitude
1	Koya	Tribe	Koyagiri	81D 45M 20S	18D 19M 19S
2	Kamar Koya	Synonym	Kamara	82D 34M 30S	19D 6M 18S
3	Kamar Koya	Synonym	Kamarahandi	82D 37M 30S	19D 30M 42S
4	Musri Koya	Synonym	Musuripadar	83D 9M 29S	19D 9M 42S
5	Musri Koya	Synonym	Musudi	83D 27M 00S	19D 27M 11S
6	Konda Rajulu	Synonym	Kondaput	82D 43M 00S	18D 54M 27S
7	Koyi	Synonym	Koimeta	81D 45M 10S	18D 5M 35S
8	Koya Dora	Synonym	Doraguda	82D 23M 30S	18D 46M 00S
9	Kanda	Synonym	Kandha	83D 53M 20S	19D 19M 48S
10	Kui	Synonym	Kuilaguda	82D 10M 59S	18D 11M 39S
11	Paredi	Exogamous Sept	Pardiambo	83D 10M 59S	18D 53M 8S
12	Peramboya	Exogamous Sept	Peramera	83D 33M 29S	19D 52M 54S
13	Kawasi	Exogamous Clan	Kowasiguda	81D 42M 39S	18D 4M 41S
14	Madkam	Exogamous Clan	Madkamiguda	82D 13M 50S	18D 31M 4S
15	Sodi	Exogamous Clan	Sodoranga	83D 24M 29S	19D 7M 1S
16	Madi	Exogamous Clan	Madi	82D 31M 19S	18D 40M 00S
17	Madi	Exogamous Clan	Madiguda	83D 43M 9S	19D 36M 6S
18	Adiam	Exogamous Clan	Adiguda	82D 8M 30S	18D 20M 18S
19	Paddam	Exogamous Clan	Padamapur	83D 9M 20S	19D 20M 54S
20	Sunnam	Exogamous Clan	Sunariguda	83D 36M 39S	19D 34M 54S
21	Vanjam	Exogamous Clan	Venchanpali	81D 38M 30S	18D 9M 2S
22	Muchika	Exogamous Clan	Muchiligura	83D 42M 00S	19D 34M 12S
23	Barek	Exogamous Clan	Barake Sala	83D 14M 9S	18D 45M 28S
24	Kunjam	Exogamous Clan	Kunjamba	82D 32M 30S	18D 33M 6S
25	Chera	Exogamous Clan	Cherampadar	82D 57M 50S	19D 4M 33S
26	Chera	Exogamous Clan	Cheruguda	81D 58M 00S	18D 13M 46S
27	Badse	Lineage	Badaserpali	82D 10M 19S	18D 38M 13S
28	Bogam	Lineage	Bhogubara	83D 54M 36S	19D 35M 26S
29	Dadir	Lineage	Dadaliguda	81D 54M 30S	18D 6M 21S
30	Emla	Lineage	Emliguda	83D 31M 30S	19D 19M 39S
31	Emla	Lineage	Emliguda	83D 31M 30S	19D 19M 39S
32	Gaita	Lineage	Gaiguda	83D 50M 30S	19D 32M 57S
33	Gondse	Lineage	Gondaguda	83D 33M 20S	19D 39M 52S
34	Kalmu	Lineage	Kalma	83D 58M 9S	19D 7M 59S
35	Karta	Lineage	Kartas	82D 49M 30S	18D 53M 18S
36	Moka	Lineage	Mokagudi	83D 49M 30S	19D 36M 30S
37	Odi	Lineage	Odi Maska	83D 28M 40S	19D 53M 26S
38	Ponder	Lineage	Pondoi	82D 56M 9S	18D 26M 36S
39	Ponder	Lineage	Punder	83D 33M 29S	19D 53M 40S
40	Pusami	Lineage	Pussapolli	82D 7M 59S	18D 26M 00S
41	Rawal	Lineage	Rava	82D 22M 50S	18D 18M 57S

42	Rawal	Lineage	Rava	83D 22M 50S	19D 18M 57S
43	Tatu	Lineage	Tatibeda	82D 34M 00S	18D 52M 54S
44	Tatu	Lineage	Tatipari	82D 21M 00S	18D 3M 00S
45	Teliari	Lineage	Telia	82D 30M 39S	18D 57M 11S
46	Galir	Clan	Galipendi	83D 23M 39S	19D 7M 24S
47	Ganget	Clan	Gangapada	82D 16M 30S	18D 21M 38S
48	Lawar	Clan	Laudi	83D 2M 49S	18D 26M 36S
49	Lawar	Clan	Lauriguda	83D 12M 00S	18D 46M 40S
50	Pittalwar	Clan	Pitalamingi	83D 51M 20S	19D 4M 3S
51	Tai	Clan	Taimal	82D 19M 30S	18D 18M 37S
52	Mottum	Clan	Motu	81D 30M 50S	17D 50M 56S
53	Dharmu	Clan	Dharmaguda	83D 37M 30S	19D 22M 4S
54	Dharmu	Clan	Dharmaguda	83D 7M 00S	19D 7M 30S
55	Undmir	Clan	Ondara	83D 5M 6S	18D 31M 12S
56	Turramir	Clan	Turabadi	83D 38M 49S	19D 39M 45S
57	Turramir	Clan	Turiguda	83D 10M 9S	18D 45M 54S
58	Jelir	Clan	Jala	83D 23M 20S	18D 54M 5S
59	Madir	Clan	Madiguda	83D 43M 9S	19D 36M 6S
60	Darer	Clan	Daraguda	81D 44M 39S	18D 9M 57S
61	Alwa	Clan	Aluru	81D 48M 50S	18D 24M 11S
62	Bandam	Clan	Bandia	82D 33M 29S	19D 18M 6S
63	Kanjaroo	Clan	Kanjeri	82D 33M 10S	18D 45M 36S
64	Kanjaroo	Clan	Kanjakana	83D 9M 00S	19D 16M 42S
65	Kunju	Clan	Kunjabadi	83D 34M 40S	19D 10M 4S
66	Kokral	Clan	Kokidi	82D 25M 9S	19D 9M 15S
67	Kattam	Clan	Katamaguda	82D 26M 20S	18D 29M 17S
68	Ondi	Clan	Ondharolima	83D 49M 40S	19D 28M 37S
69	Pharkam	Clan	Parkanmala	82D 8M 27S	18D 22M 15S
70	Rega	Clan	Regada	83D 13M 57S	19D 4M 5S
71	Bani	Clan	Banipanga	83D 33M 22S	19D 49M 15S
72	Kaka	Clan	Kakada	82D 43M 7S	18D 27M 34S
73	Kotam	Clan	Kotamal	82D 37M 30S	19D 28M 51S
74	Dora	Title	Doragula	82D 27M 39S	19D 26M 21S
75	Dora	Title	Doragam	83D 31M 40S	19D 54M 56S
76	Madkami	Surname	Madkamiguda	82D 13M 50S	18D 31M 4S
77	Madi	Surname	Madi	82D 31M 19S	18D 40M 00S
78	Wanjami	Surname	Venchanpali	81D 38M 30S	18D 9M 2S
79	Rawa	Surname	Rava	82D 22M 50S	18D 18M 57S
80	Kawasi	Surname	Kowasiguda	81D 42M 39S	18D 4M 41S
81	Sodi	Surname	Sodoranga	83D 24M 29S	19D 7M 1S
82	Beke	Surname	Bakagura	83D 56M 39S	19D 31M 1S
83	Inga	Surname	Ingira	82D 10M 30S	19D 44M 17S

Table 4
The Ethnonyms of Koyas as Place Names in Nigeria (Africa)

SN	KD	Category	NPN	Latitude	Longitude
1	Alwa	Clan	Alwali	8D 19M 55S	11D 50M 58S
2	Alwa	Clan	Alwei	8D 48M 00S	7D 1M 00S
3	Bandam	Clan	Bandam	4D 7M 59S	11D 45M 00S
4	Darer	Clan	Darer	10D 10M 59S	10D 46M 59S
5	Dharmu	Clan	Daram	13D 9M 00S	9D 58M 59S
6	Dharmu	Clan	Daramushe	10D 4M 59S	11D 40M 59S
7	Galir	Clan	Gali	10D 16M 59S	10D 46M 00S
8	Ganget	Clan	Gangatilo	13D 1M 59S	12D 19M 59S
9	Jelir	Clan	Jela	6D 49M 00S	12D 21M 00S
10	Kanjaroo	Clan	Kanja	8D 43M 00S	9D 1M 00S
11	Kanjaroo	Clan	Kanjirawa	6D 28M 00S	11D 24M 00S
12	Kattam	Clan	Katam	10D 49M 00S	10D 16M 00S
13	Kokral	Clan	Kokora	6D 27M 00S	8D 37M 59S
14	Kotam	Clan	Kotembe	13D 52M 00S	11D 22M 00S
15	Kunju	Clan	Kunji	4D 28M 00S	11D 7M 59S
16	Kurram	Clan	Kurra	8D 45M 00S	9D 24M 00S
17	Lawar	Clan	Lawaru	11D 55M 59S	9D 24M 00S
18	Lawar	Clan	Laweru	11D 55M 59S	9D 24M 00S
19	Madir	Clan	Madira	6D 33M 38S	12D 38M 21S
20	Mottum	Clan	Motunde	3D 54M 37S	7D 40M 13S
21	Ondi	Clan	Ondewari	6D 00M 32S	4D 46M 19S
22	Oyemir	Clan	Oye	3D 22M 59S	7D 7M 59S
23	Pittalwar	Clan	Pitila Hills	12D 1M 00S	10D 13M 59S
24	Tai	Clan	Tayu	8D 37M 00S	9D 16M 59S
25	Turramir	Clan	Turame	8D 16M 59S	11D 19M 59S
26	Turramir	Clan	Turmi	11D 25M 00S	11D 22M 00S
27	Undmir	Clan	Unde	8D 58M 00S	7D 1M 59S
28	Mailam	Clan	Malia	5D 37M 00S	13D 28M 00S
29	Rega	Clan	Rego	8D 51M 00S	12D 22M 59S
30	Pharkam	Clan	Parakam	4D 24M 00S	13D 13M 59S
31	Kaka	Clan	Kaka	11D 12M 00S	8D 7M 00S
32	Kaka	Clan	Kaka	3D 48M 00S	7D 3M 00S
33	Bani	Clan	Bani	13D 13M 59S	10D 27M 00S
34	Adiam	Exogamous Clan	Adi	8D 58M 59S	7D 1M 00S
35	Barek	Exogamous Clan	Bareke	12D 25M 00S	8D 49M 00S
36	Chera	Exogamous Clan	Cherawa	13D 36M 00S	12D 46M 00S
37	Chera	Exogamous Clan	Cero	8D 41M 21S	12D 3M 51S
38	Karam	Exogamous Clan	Karama	6D 25M 00S	5D 7M 00S
39	Kawasi	Exogamous Clan	Kawaseme	6D 43M 59S	8D 51M 00S
40	Kawasi	Exogamous Clan	Kawaje	8D 20M 20S	12D 12M 56S
41	Kunjam	Exogamous Clan	Kunjum	10D 46M 59S	12D 1M 00S

42	Madi	Exogamous Clan	Made	8D 52M 59S	7D 34M 59S
43	Madi	Exogamous Clan	Made	11D 19M 00S	11D 31M 59S
44	Madkam	Exogamous Clan	Matagami	8D 24M 00S	9D 40M 00S
45	Muchika	Exogamous Clan	Muchia	8D 40M 59S	10D 48M 00S
46	Paddam	Exogamous Clan	Padam Hills	12D 1M 00S	10D 13M 59S
47	Sodi	Exogamous Clan	Sodina	3D 58M 00S	7D 4M 59S
48	Sodi	Exogamous Clan	Sodipe	3D 30M 00S	7D 00M 00S
49	Sunnam	Exogamous Clan	Sunnai	6D 49M 59S	10D 21M 00S
50	Vanjam	Exogamous Clan	Wanja	8D 39M 00S	7D 22M 59S
51	Paredi	Exogamous Sept	Parda	12D 43M 00S	9D 10M 59S
52	Paredi	Exogamous Sept	Parda	12D 4M 59S	10D 15M 00S
53	Peramboya	Exogamous Sept	Permobiri	6D 4M 50S	4D 38M 35S
54	Badse	Lineage	Badsweni	4D 46M 00S	11D 40M 59S
55	Badse	Lineage	Badshi	11D 28M 59S	11D 34M 59S
56	Bogam	Lineage	Bogun	3D 19M 00S	7D 40M 59S
57	Bogam	Lineage	Boga	12D 22M 59S	10D 7M 59S
58	Dadir	Lineage	Dadiri	11D 42M 00S	7D 46M 59S
59	Emla	Lineage	Emelego	6D 31M 00S	4D 49M 00S
60	Emla	Lineage	Emelsua	6D 41M 51S	4D 50M 35S
61	Gaita	Lineage	Gaida	8D 28M 13S	11D 56M 6S
62	Gondse	Lineage	Gondi	11D 57M 00S	10D 33M 00S
63	Guisale	Lineage	Gusoli	6D 21M 00S	8D 55M 59S
64	Kalmu	Lineage	Kalma	14D 33M 00S	12D 10M 59S
65	Karami	Lineage	Karami	7D 51M 00S	10D 30M 00S
66	Karta	Lineage	Kartau	8D 11M 59S	11D 9M 00S
67	Moka	Lineage	Moko	3D 7M 00S	8D 52M 59S
68	Napod	Lineage	Napadna	6D 57M 00S	9D 28M 59S
69	Odi	Lineage	Odi	5D 43M 00S	5D 34M 00S
70	Oyami	Lineage	Oyada	3D 59M 8S	7D 38M 8S
71	Ponder	Lineage	Pondi	12D 18M 00S	10D 3M 00S
72	Ponder	Lineage	Pandaw	3D 3M 00S	8D 3M 00S
73	Punyem	Lineage	Ponyan	5D 43M 00S	7D 58M 00S
74	Pusami	Lineage	Pussa Bani	4D 7M 00S	10D 46M 00S
75	Rawal	Lineage	Rawo	6D 19M 00S	9D 52M 59S
76	Rawal	Lineage	Rawe	4D 49M 00S	6D 13M 59S

77	Tati	Lineage	Tati	10D 9M 00S	7D 16M 59S
78	Tati	Lineage	Tati River	10D 25M 59S	7D 48M 00S
79	Teliari	Lineage	Teli	11D 42M 00S	10D 27M 00S
80	Weti	Lineage	Weto	7D 49M 59S	7D 58M 00S
81	Wickalore	Lineage	Wiga	12D 1M 00S	10D 40M 59S
82	Wickalore	Lineage	Wikki	10D 31M 58S	9D 46M 9S
83	Wickalore	Lineage	Weiko River	6D 19M 59S	9D 54M 00S
84	Beke	Surname	Beke	8D 37M 59S	7D 51M 00S
85	Inga	Surname	Inga	6D 6M 00S	10D 4M 59S
86	Karami	Surname	Karami River	7D 51M 00S	10D 30M 00S
87	Kawasi	Surname	Kawaje	8D 20M 20S	12D 12M 56S
88	Madi	Surname	Made	8D 52M 59S	7D 34M 59S
89	Madkami	Surname	Matagami	8D 24M 00S	9D 40M 00S
90	Marabi	Surname	Marabi	11D 7M 00S	9D 19M 00S
91	Padami	Surname	Padam Hills	11D 58M 00S	10D 45M 00S
92	Padiami	Surname	Padam Hills	11D 58M 00S	10D 45M 00S
93	Rawa	Surname	Rawo	6D 19M 00S	9D 52M 59S
94	Sodi	Surname	Sodipe	3D 30M 00S	7D 00M 00S
95	Wanjami	Surname	Wanja	8D 39M 00S	7D 22M 59S
96	Kamar Koya	Synonym	Kamaru	8D 58M 00S	9D 46M 59S
97	Kamar Koya	Synonym	Kamarawa	6D 31M 59S	13D 6M 00S
98	Kanda	Synonym	Kanda	8D 34M 59S	12D 55M 59S
99	Konda Rajulu	Synonym	Konda	3D 19M 00S	7D 34M 59S
100	Koya Dora	Synonym	Dora	11D 36M 00S	8D 40M 59S
101	Koyi	Synonym	Koitulo	3D 59M 15S	7D 30M 56S
102	Kui	Synonym	Kuyi	6D 27M 00S	9D 40M 00S
103	Musri Koya	Synonym	Musari	13D 25M 00S	11D 10M 00S
104	Musri Koya	Synonym	Musariya	10D 27M 00S	12D 28M 59S
105	Dora	Title	Dora	11D 36M 00S	8D 40M 59S
106	Dora	Title	Dora	12D 7M 00S	10D 58M 59S
107	Koya	Tribe	Koya	7D 45M 00S	12D 7M 59S
108	Koya	Tribe	Koya	8D 37M 15S	12D 7M 19S
109	Koya	Tribe	Koya	4D 55M 00S	12D 39M 00S
110	Koya	Tribe	Koya	7D 57M 00S	11D 52M 00S

[SN = Serial Number; KD = Koya Designation; NPN = Nigerian Place Name]

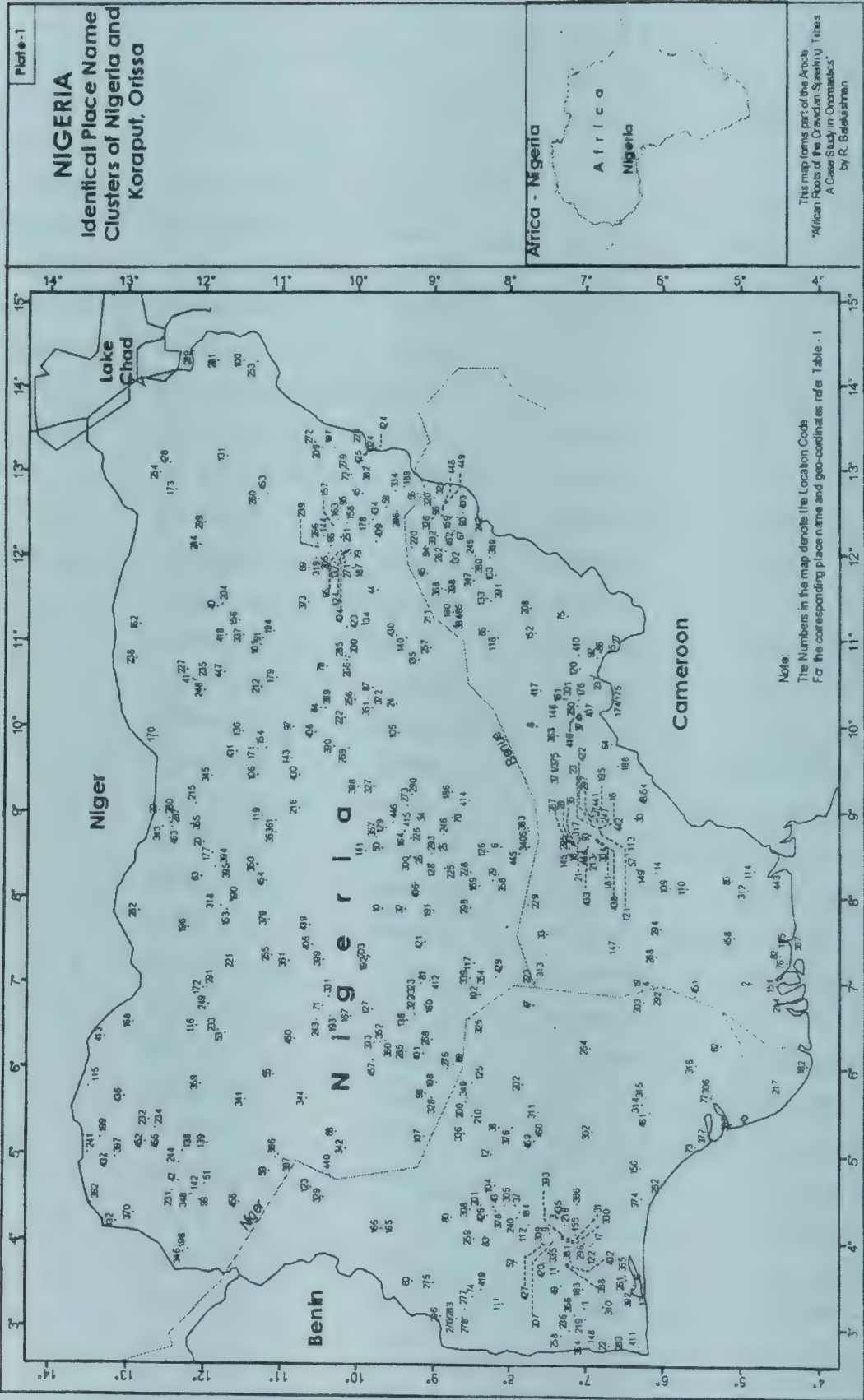


Plate 2

KORAPUT Identical Place Name Clusters of Nigeria and Koraput, Orissa

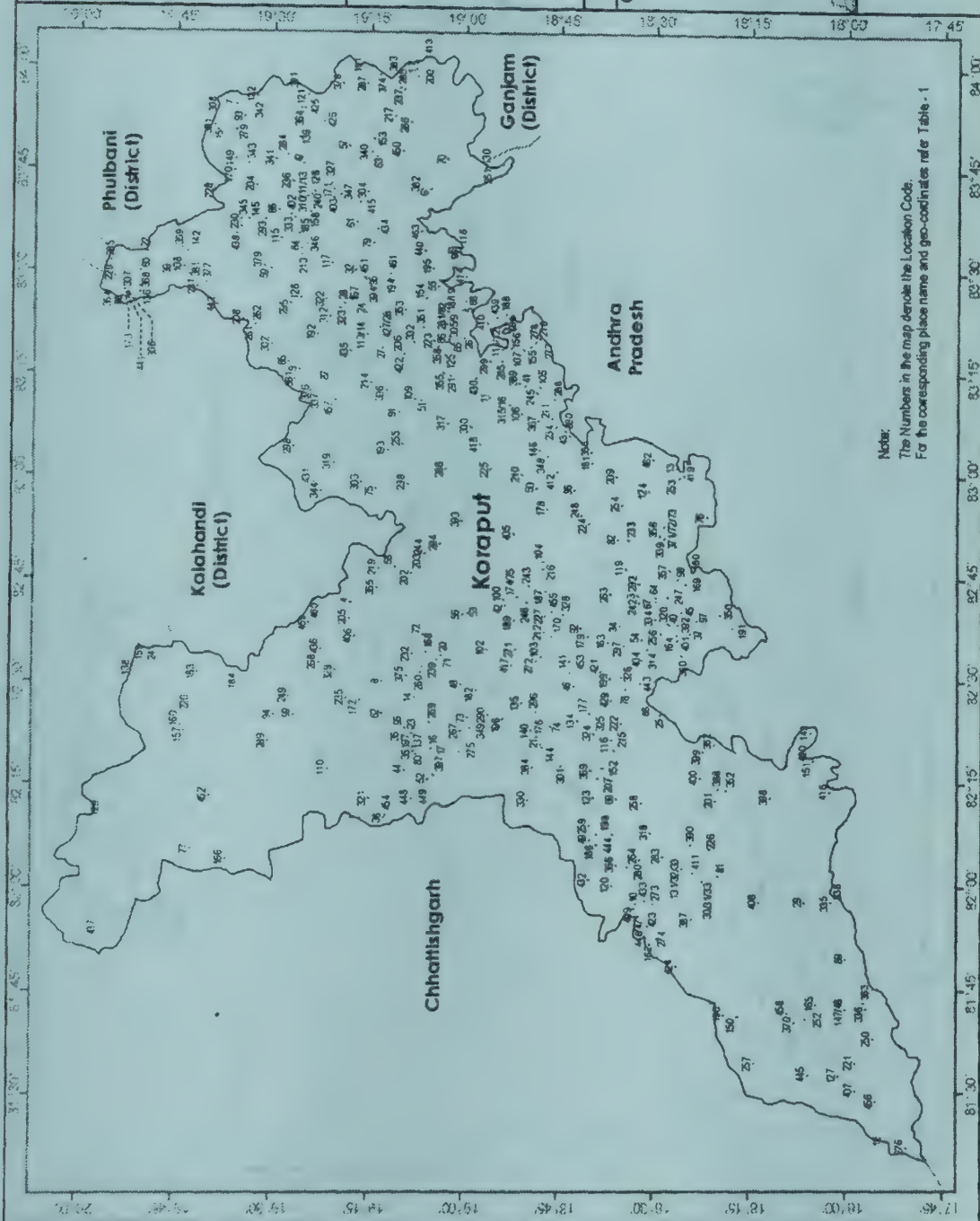
India - Orissa



Orissa-Koraput



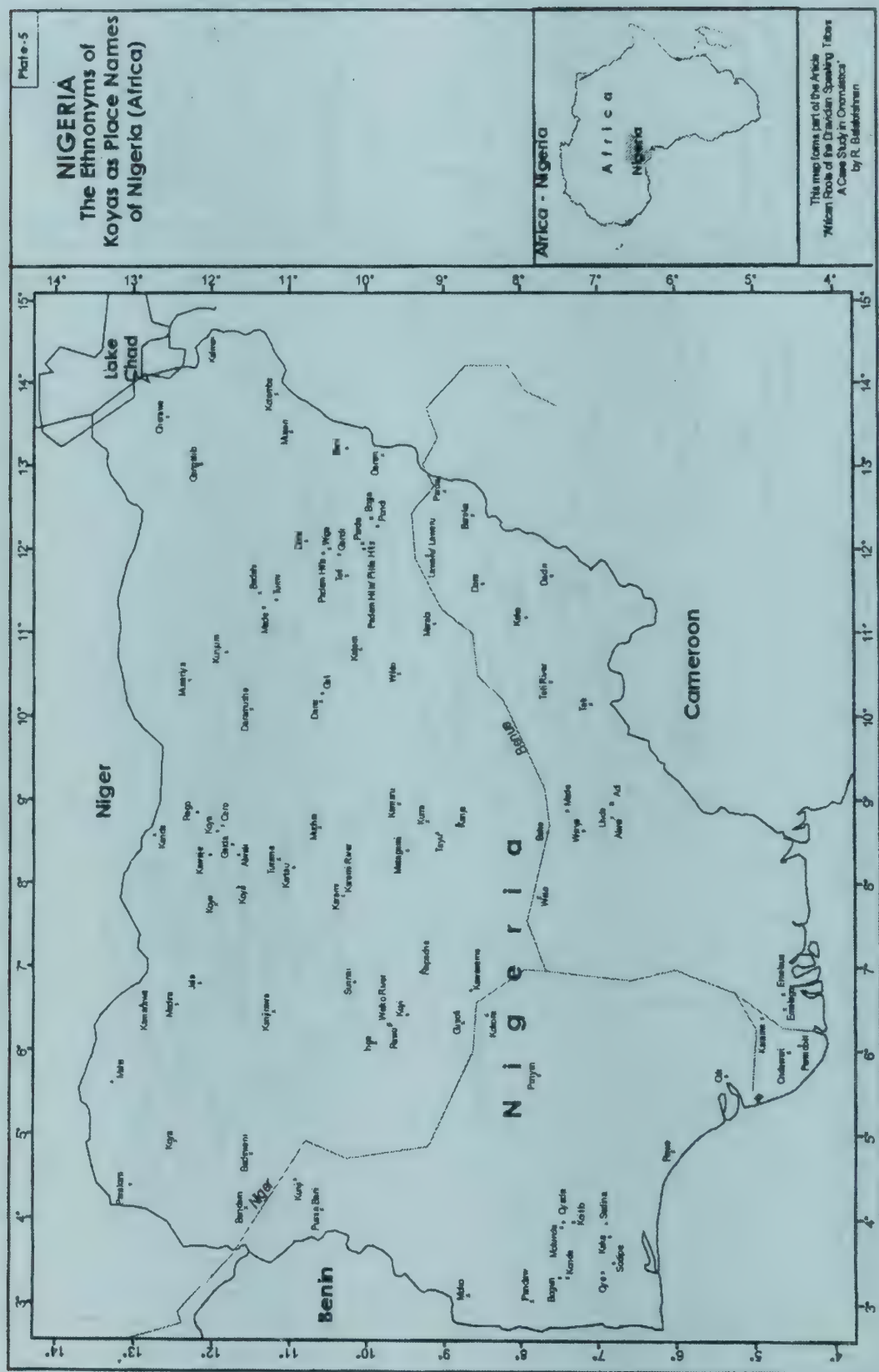
This map (and part of the Article
"African Roots of the Orissan
"Misanic Roots of the Orissan
A Case Study in Chronology"
by R. Balakrishnan



Note:

The Numbers in the map denote the Location Code.
For the corresponding place name and geo-coordinates refer Table - 1







Notes & Discussions

THE ROLE OF GRAMMAR IN COMMUNICATIVE LANGUAGE TEACHING

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Abstract

Communicative language teaching deals with the communicative aspect of language teaching in a second-language teaching situation. More emphasis in this process is laid on listening comprehension and speaking though the other two skills of reading and writing are equally important.

Grammar does not play a very rigid role in this process as in the traditional writings, and it is more flexible as it includes grammatical rules used in the spoken variety of the language being learnt than the grammatical rules prescribed by the traditional grammarians.

The present paper in addition to putting more emphasis on oral and aural skills, also deals with these aspects explaining the variations of the traditional and pedagogical grammars, and those that have to be included in the communicative approach to second-language teaching.

Introduction

Of late it was realized that language teaching, especially second-language teaching based on the rigidly laid-down principles, and methods of following chronological steps may not serve the purpose of developing the language skills, especially the communicative skills. Language teaching experts who lay emphasis on listening and speaking which form part of a communication were dissatisfied with the methods followed hitherto, since those methods lay more emphasis on tedious mechanistic process in which the learners' contribution is negligible. The learners were though able to give automatic responses in drills but without understanding what they were doing, and without knowing its relation to other features of the language system. Though they were perfect in doing mechanical drills and producing

dialogues as practiced, they failed to use them in real communication. Hence, it was realized that if communication is the purpose of learning a language, more emphasis must be laid on communicative process than on the formulae presented in the teaching materials, or by the class teacher. As a result, modifications in the existing methodology were necessitated. Creation of real-life situations with explanations, and embedding of cultural aspects of the target language in the teaching materials have also become necessary. Thus, making the teaching / learning more live with ample language interaction putting more stress on communicative aspect has become an important factor especially in second-language teaching situation.

Communicative Language

Communicative language is not just the language of communication, or in other words, the vehicle of communication such as a specified dialect, but it is the form or variety of any language used for day-to-day communication such as talks, conversations, speeches, dialogues, etc. Therefore, it is more concerned with listening comprehension and speaking than with reading and writing. However, reading and writing, though they are secondary skills cannot be ignored, as this variety of language is also used in writing, i.e. in written communications.

In communicative language-teaching, emphasis should be laid on the recognized standard variety of the language, i.e. the language used for communication by the native speakers of that language. This variety may have deviations in certain grammatical prescriptions, and also vocabulary and their semantic connotations from the traditionally used and accepted variety in writings. Since it is used for communication, emphasis has to be laid on this variety in teaching, as the main purpose of teaching is communication.

Communicativeness

From the experience gained from various language-teaching methods used for decades, the experts in the field have realized that mere knowledge of grammatical structures and rules do not sufficiently prepare the learners for the effective use of the target language. Therefore, emergence of a new approach where emphasis is laid on the communicative aspect of the language became inevitable. This approach does not prescribe

a syllabus-teaching methodology, but shows more concern with communication as a meaning-based activity. This approach is based 'on an understanding of the nature of communication and the variability of the norms for communication from context to context' (Berns, 1990).

Communication requires sufficient command over the aural and oral skills, in other words, listening and speaking. In fact, command over speaking skill is enough to communicate, but it is one-sided. For continuation of communication between two persons - the speaker and the listener - lack of sufficient competence of listening comprehension will become a great hindrance. So, in communicative approach to second-language teaching, more emphasis naturally is laid on the listening and speaking skills. Need-based courses where the speakers have to use and interact in local languages for specific purposes are designed using communicative approach emphasizing the listening and speaking skills.

Traditional vs. Pedagogical Grammar

Grammar reveals the structure of a language. Traditional grammar describes the structure of the texts, books and other literature already existing. Its base is literature. It also prescribes and dictates what to do and what not to do in writing and also in speaking. It becomes a reference manual for future writers and users. On the contrary, the pedagogical grammar reveals the structure of the standard spoken and contemporary written language. It prescribes and suggests the rules and steps of the standard language for both speaking and writing. This is the one we are interested in, which is close to the grammar of the communicative language that describes the structure of the language used for communication. Its base is the language of communication of the concerned linguistic group of people used in day-to-day communication among themselves and also with others. This grammar of communicative language is the one that is important for the communicative language-teaching.

The traditional grammar normally is more rigid on its rules and prescriptions whereas the grammar of communicative language is flexible and accommodates variations and violations of the rules of traditional grammar. These variations between the traditional grammar and the communicative grammar exist at all levels. A few examples are as follows.

Traditional Grammatical Forms Communicative Grammatical Forms

1. Vocabulary

Telugu

pillava:ṇḍru *pillalu* 'children'

Kannada

vidya:rthiyaru *vidyarthigaḷu* 'students'

2. Syntax

Telugu

viṣa:khapaṭnamūnaku / *viṣa:khapaṭnamūku /* 'To Visakhapatnam'
viṣa:khapaṭna:niki *viṣa:khapaṭna:niki*

Kannada

avanannu no:ḍu *avanige no:ḍu* 'See him'

Hindi

māi bo:la: *māine: bo:la:* 'I said'

3. Sandhi

Telugu

śiva:nanda:śramāmū / *śiva:nanda:śramāmī* 'Sri Venkateswara Park'
śri: ve:ṇkaṭe:śvaro: - *śri: ve:ṇkaṭe:śvara*
dya:navanamū *udya:navanamī*

adhya:pakuliyavaleṇu *adhya:pakulivva:li* 'Teachers have to give'

vi:rupa:dha:yulu *vi:ru upa:dya:yulu* 'These are teachers'

Kannada

saha:yaka:bhiyantaru *saha:yaka abhiyantaru* 'Assistant Engineer'

upa:yuktaru *upa a:yuktaru* 'Deputy Commissioner'

Tamil

adenna: paṭam *adu enna: paṭam* 'What is that picture?'

Hindi

<i>bha:ṣaikyata:</i>	<i>bha:ṣa: ekta:</i>	‘Language unity’
<i>bha:rato:day ya:tra:</i>	<i>bharat uday ya:tra:</i>	‘India Shining Journey’

4. Compounds**Telugu**

<i>prapañca po:ti:lu</i> (Sanskrit + Telugu)	‘World competitions’
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Kannada

<i>aḍalita:dhika:ri</i> (Kannada + Sanskrit)	‘Administrative Officer’
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Hindi

<i>jila:dhī:ś</i> (Perso-Arabic + Sanskrit)	‘District Magistrate’
<i>bhi:ḍ pu:rṇa sapta:h</i> (Hindi + Sanskrit + Sanskrit)	‘Crowded week’

Grammar and Language Teaching

Every language has a grammar. It is like a foundation for a building. The grammatical system is inherent and implicit. Though the native speaker including the illiterate, does not know what is grammar in its explicit terms, his competence in it is near-perfect, in the sense that he knows how to use it for his native language, or in other words, he knows how to use his native language in accordance with its grammatical rules. While learning the mother tongue, he does not learn grammar as grammar in its real sense, but internalises its rules as a matter of practice. But the situation in the context of second-language learning is different. Here, the grammar has to be learnt as grammar. Its rules have to be remembered and compared to the rules of grammar of his mother tongue. The variations have to be explained in clear terms and they have to be practised. Therefore, any language-teaching, or teaching material has to give importance to the grammatical aspect, and grammatical rules have to be suitably presented for teaching purpose.

Role of Grammar in Communicative Language Teaching

Every language-teaching method has to use grammar in some form or other. This is true even with communicative language teaching as grammar is the core of language and inherent to language teaching, and it has to be taught implicitly. In this context, one should remember that grammar in language teaching means not the linguistic grammar which facilitates a speaker to understand an arbitrary sentence, but it is the pedagogic grammar which provides the learner not only the ability to understand the given sentences but to produce such sentences. Teaching of pedagogic grammar is particularly important in the context of second language teaching, where grammatical rules are necessary to be explained in order to facilitate the learner to compare them with those of his mother tongue. In other words, a sort of contrastive grammatical analysis is necessary in second language teaching. It is important to note that grammar in the context of second language teaching should not be taught but explained - the rules that have to be internalised - and the grammar has to go like an inherent stream along with the development of communicative or productive skills. However, the main emphasis in the communicative language-teaching must be laid on building up communicative competence in the second language, and grammar has to be used only as a tool to achieve this goal. Therefore, grammar in communicative language teaching context should not be taught by its rigid rules and terminology, but in a loose and lucid manner, making short cuts wherever possible, making blind and analogical rules if necessary, and using loose and common or non-technical terminology. For instance, while teaching the usage of *can* in teaching of English, we may call it *can form* in a simple manner whereas we may like to call it *abilitative form* in linguistic grammar. Similarly, *ve:ṇḍum* in Tamil, or *be:ku* in Kannada may be called *must form* instead of *obligatory form*. While teaching Telugu verbs, we may take *mu:s* 'close', *po:s* 'pour', *tes* 'bring', *vas* 'come', *telus* 'know', *kalus* 'meet', *parigett* 'run', etc. whereas they are *mu:yu-*, *po:yu-*, *teccu-*, *veccu-*, *teliyu-*, *kaliyu-*, *parugettu-* respectively in the traditional grammar. The obligatory suffix added to the verbs may be taken as *-a:li* whereas this is dismissed by the traditional grammarians as absurd and non-entity in the language and accept *valayu-* as correct which changed to *-a:li* in speech only. but the language teacher who is interested in the communicative aspect of the language has to accept and adopt the so-called non-entity form as correct for his purpose since the main purpose and the goal of teaching of a second language is to make the learner comparable in his competence in the target language to the native speaker, or bring him to the native speaker in using the second language in terms of language skills. Therefore, grammar in second language teaching, in particular in communicative language teaching, is

not taught but explained in order to make the learner use the language being learnt more effectively.

In communicative language teaching, grammar has to be explained in such a way that the learner remembers the rules and uses them in communication, or in other words, his communicative competence in the target language should be in accordance with the grammatical rules of the target language internalised by him. Thus, grammar in language learning is learnt only to use and it should not be taught as a subject of learning, and hence the teacher should test the performance of the learner in the language skills of the target language and not the grammar for grammar sake.

Grammar in communicative language teaching is used at each level of teaching.

At vocabulary level, grammar along with various connotations of vocables and their use in different contexts is explained so that the learner becomes familiar with the person-number-gender system of the language he is learning along with their connotations and contexts of use.

At morphological level, the grammar is explained to make the learner familiar with word formation, compounding, derivation, inflexion, etc. along with the understanding of where to use what.

At morphophonemic level, the grammar is explained to make the learner familiar with the junctural changes of various sounds in sandhi formations, etc.

At syntactic level, the grammar should be explained to make the learner familiar with the syntactic patterns of the target language, especially those different from the mother tongue; to make the learner to use tenses, voices, compounding, creation of complex sentences and their use; to make the learner familiar with tense-mood-aspect system, with relativization, transformations, sentence-clause-phrase differences, etc.

At discourse level, it should be explained how the thought is organized, how sentences interrelate to each other, and the role of conjunctions, change of paragraph, etc.

Thus, knowledge of grammar is inherent in learning a second language and the second language teacher has to use grammar up to a level necessary to make the second language learner communicative and not

more than that. The only difference is that grammar is not taught as grammar but as an aid to achieve communicative competence in the target language. The role of grammar in language teaching is limited and it is inherent and implicit. It is never taught explicitly and explained only in loose terms with a prime goal to build communicative competence in the learner so as to bring him on a par with the native speaker.

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BA:LAVYA:KARANAMU OF PARAVASTU CINNAYA SU:RI
P.S. Subrahmanyam (Tr.), 2002, HB, pp. iv+xliv+382, Rs. 1,200/- (US\$ 120/-)

This magnificently-produced volume in 10 chapters with 3 appendices opens our eyes to Telugu grammatical tradition. Though Panini is mentioned, the Katantra pattern which is also the pattern of Tolkappiyam, is followed. For describing the grammatical tradition of Telugu, this work is indispensable. The English translation is pleasing and precise.

CALDWELL AND A.R. RAJA RAJA VARMA
ON MALAYALAM GRAMMAR
K. Raghavan Pillai, 1996, Demy 1/8, pp. 168, Rs. 250/- (US\$ 25/-)

A comparative study of the views of two prominent grammarians, this work attempts to compare the views of Caldwell and Rajaraja Varma (A.R.) on Malayalam, its relation with Dravidian in general and Tamil in particular. The work aims to analyze critically the introduction (*Pīṭika*) by A.R. to *Kēraḷapāṇinīyam*, vis-a-vis an evaluation of Caldwell's views on Malayalam grammar and its development. The discerning critic will find this work informative and stimulating.

Review

THE HISTORY AND GEOGRAPHY OF HUMAN GENES (Abridged Paperback Edition). Cavalli-Sforza L., Menozzi & Piazza. 1996. New Jersey: Princeton University Press. pp. xv + 413. US\$ 41/-.

This is a definitive study of the distribution of the great variety of humans spread all over Earth. The senior author, Professor of Genetics at Stanford University, has been well known for more than three decades for his contributions on human Genetics and migrations. Menozzi is Professor of Ecology at University of Parma, and Piazza, of Human Genetics at Turin University. The book is an abridged paperback edition of the heavier version, published about two years previously. As far as I know, copies are not widely available in India. The authors started collecting data from 1978 and closed acquisition in 1986. Analysis of data, preparation of maps, etc., took a long time, but data generated during these periods, including "Human Genome Project" had not been incorporated. The work attempts integration of data not only from the vast corpus of Physical Anthropology studies, but also of Molecular Genetics, Archaeology, Demography, and Linguistics. The close correlation between linguistic and genetic group-formation is a special highlight.

The first chapter, *Introduction*, is intended for general readers. Important words, e.g., 'protein', are defined; then, the role of proteins in human populations, and methods and implications of changes in them are explained. Section 1.2 contains definitions of expressions used in discourse on Genetics. Various examples illustrate polymorphism of *Homo sapiens sapiens*, including DNA polymorphisms. Genetic determination and evolution of gene frequencies by natural selection, random drift, migration, and adaptation, and the phenomenon of mutation are discussed. Section 1.5 briefly reviews "classical" attempts to distinguish human "races". The nature and dynamics of variation as indicated by genetic markers are: natural selection, mutation, migration, and chance. "There is no scientific basis to the belief of genetically determined 'superiority' of one population over another" (p. 19). The database contained 76,676 gene frequencies from

different geographic locations. The authors adopted a pooling procedure and reduced it to 491 populations, identified by various characteristics.

Section 1.8 is of interest to students of Linguistics. The authors draw heavily on Ruhlen 1987 (*A Guide to the World's Languages*, Stanford University Press); there are 4,736 languages; a few are spoken by hundreds of millions, and others by less than a few hundred. They are classified into 17 phyla, almost synonymous with 'families'. Our authors found a pattern for human populations, determined by geographic, anthropological, linguistic and ethnographic features, in that order. Mendelian (true-breeding) populations were hardly present anywhere; the smallest subdivision is a genetic pool of individuals who mate randomly, though it may be larger than a Mendelian population.

"It is reassuring that the patterns of linguistic variation in space parallel those of genetic and or geographic variation There are in fact good a priori reasons why cultural and genetic pools have close similarities: both genetic and cultural contacts take place by the same routes; they respond to the same geographic and ecological barriers; and they also can influence each other, in the sense of mutual reinforcement. the constitution of a genetic pool is determined by geographic factors, socio-economic distance, and a variety of cultural factors (religious, linguistic, etc.), all of which also operate on cultural pools and affect them in a parallel way. Although investigations of the joint effects of all these variables would be very interesting, there do not seem to be any. It seems likely that two individuals have a higher probability of marrying if their distance in any of these scales is shorter." (p. 23).

The authors caution against reading too much significance in correspondence between genetic and linguistic classifications. The latter, though termed "genetic", are *phylogenetic* - they relate to external characteristics. Languages evolve much faster than genes, by progressive differentiation. Language barriers may be compared to species boundaries in biology - loss of inter-comprehensibility marks language change; loss of inter-fertility the evolution of new species. But the first can be completed in a few generations; the second takes millennia. "One thus expects and finds major inconsistencies in the comparison of genes and languages" (p. 24).

Dialects of a language show smaller reciprocal distances than languages, but transition from one to the other is continuous. In some grey

areas, designation of a particular dialect as belonging to one language rather than another may be arbitrary. Languages spoken by millions of people spread over a variety of geographical locations show less correspondence between speakers and genetic variations. Even in such aggregates, distribution of dialects may closely correspond to genetic divisions. The percentage of words that are cognates is a measure of linguistic affinity. Usual techniques of analysis, consisting of evaluating proportion of words that clearly have a common origin even though they may have undergone phonological or semantic changes, is analogous to biological classification systems. But some genetic markers, especially in mitochondrial DNA (mtDNA) persist through generations, subject only to mutational changes; similarly, some words denoting intimate body parts, kinship, number etc., persist mostly unchanged in language. A great deal of attention has been paid to Mathematics, and rigorous techniques of Statistical Analysis. It is not possible in this review to go through details. Of interest is the discussion on "Trees", frequently used for classification of languages as well, to represent the history of fissions from a parent source. Statistical methods for measuring time-interval between fissions are described. Other techniques used are Principal-Component analysis, and 'generalized statistical distance'. "Synthetic Maps" have been presented on the basis of these analyses to show geographic spread.

The Second Chapter outlines *Genetic History of World Populations*. Genus *Homo* began about 2.5 million years ago, but divergence of 'anatomically modern humans' ("amh") only about 1,00,000 years ago. The authors inconclusively discuss whether this happened uniquely somewhere in Africa, or was polycentric, independently at several locations. The preponderance of present views is in favour of the former. The evidence gathered in the present volume would also support that view, though not conclusively. The mastery of food production favoured cultural innovation and a spurt in population growth. The relative pressures of population led to migration round the globe. Based on the analysis of Blood Groups, there is a clear split between African and non-African populations, but no conclusive inferences can be drawn from that. "Data on more populations and especially on more genes, in addition to other methods of analysis and independent sources of evidence, are needed for a sharper answer" (p. 83), a constant refrain through the book.

Section 2.4 describes *mtDNA types* by Restriction Analysis. The authors caution against many popular misunderstandings of famous "Mitochondrial Eve" - a mythical woman who lived 2,00,000 years ago, and

from whom all living humans descended. Exact quantification of the genealogy of a given gene is by new mathematical techniques called the 'theory of the coalescent'. "There is absolutely no evidence that the human population went through a bottleneck in which there was only one (or few) women" (p. 86). It only means that the mtDNA derived from every one of the many other females who also lived during the period did not survive through successive generations of daughters. This is due to mutations that may intervene, suppressing the mutants of the other women. "Thus, although all mtDNA present today can be traced to a single common ancestor, this is not evidence that the human population went through a period when only one woman was alive and reproducing" (p. 87). The 2,00,000-year "birth date of Eve" represents only an event in the mutations of mtDNA, and not an event in the history of human populations. The evidence sets an upper limit to common origin of amh genome that is lower than that required to support polycentric origins - i.e., it supports "Out of Africa" theory. Mathematical analysis is continued in Section 2.4.d., and proves that European populations underwent substantial hybridisation about 30,000 years ago. (Authors use notation *kya* to denote "kilo" (= x 1,000) years ago).

"In general, it reflects the geographic intermediacy between East Asia and Africa of European ancestors, who probably originated in West Asia. The trees obtained by methods other than average linkage or maximum likelihood show a slightly different structure; the shortness of the European branch is most probably the response of the method of tree reconstruction to admixture". (p. 93)

Y-chromosomes are unilineally transmitted through males. Mention has been briefly made of some studies. Subsequent to 1986, much more work has been done, and literature is growing. These data have been used to trace ethnic origins, especially where populations have been derived from several migrations through history. The authors have cited a few cases of Y-chromosome-specific polymorphisms. (Other studies, for example, by a group in Madurai Kamaraj University, headed by Dr. Pitchappan, showed similarities in some ancient genetic markers of Piramalai Kallars, Yadhava, and Sourashtras near Madurai, Tamil Nadu with pre-historic populations in Middle East. According to a report in *Indian Express*, Pune, 25 September 2004, mtDNA studies, by Pitchappan and Prof. Sudarsen, of Madras University, of the same or similar populations near Madurai, indicated there might have been coastal migrations from Africa to Australia circa 50,000 years ago, via India; cf. Pitchappan R.M. 2002: "Castes, Migration, Immunogenetics, Infectious Diseases and South India - Review", *Community*

Genetics 5: 157-161; Shanmugalakshmi et al 2003: "HLA DRB1*, - DQB1* in Piramalai Kallars and Yadhavas ...", *Tissue Antigens* 61: 451-464; Wells RS et al 2001: "The Eurasian Heartland: A Continental Perspective of Y-Chromosome Diversity", *Proc. Natl. Acad. Sci U.S.A.* 98: 10244-9; Wells RS 2002: *Journey of Man*, Penguin Press, ISBN 0-713-99625-0).

Section 2.5 compares these conclusions with archaeological data. The combined evidence shows that there was a mass movement from Africa to Asia, soon after the origin of amh in the former; evidences in the latter have been dated to around 1,00,000 years ago. Another date supported by archaeological findings is the arrival of amh in Australia, about 40,000 to 60,000 years ago. The sea did not separate New Guinea and Australia then. Surprisingly, the entry into Europe occurred only about 35,000 years ago. There is considerable uncertainty about the date of the event in America - about 35,000 to 18,000 years.

Section 2.6 returns to *Linguistic Classifications* in the context of these data.

"Whether human languages had a single or multiple origins is considered by most linguists as insoluble. The speculations were sufficiently wild in the last century that in 1866 the Linguistic Society of Paris forbade discussions of this topic The strength of this taboo was such that it still survives to a great extent. The real difficulty is that human language evolves so fast that the differentiation between presently extant languages is extreme and it is difficult to establish similarities between them. Nevertheless, a small group has recently started a search for words possibly common to all language families. The first universal root was proposed by Greenberg (in 1976): *tik*, meaning one, finger or hand. Additional roots have now been proposed and the research is proceeding" (p. 96).

The authors feel that use of quantitative methods is still in its infancy in Linguistics; there are objective difficulties in defining criteria. Ruhlen 1987 is much cited for 17 families and their geographic distribution (map and list, p. 97). Interestingly, Andamanese has been classified under Austro-Asiatic (Austic), and subsequently, under "Indo-Pacific", instead of as an isolate. The isolates are: 1. Basque, 2. Burushaski, 3. Ket, 4. Gilyak and 5. Nahali. Two super-families have been proposed, viz., *Nostratic*, comprising Afro-Asiatic, Indo-European, Dravidian, Uralic-Yukaghir, Sino-Tibetan, Altaic, Eskimo-Aleut and Chukchi-Kamchatkan, with some favouring

inclusion of Amerind languages, and Eurasiatic, comprising Indo-European, Uralic-Yukaghir, Altaic, Korean-Japanese-Ainu, Chukchi-Kamchatkan and Eskimo-Aleut. The discrepancies in the two classifications are attributed to differences in methodologies adopted respectively by Russian and American researchers. Second is the Austric, including Austro-Asiatic, Daic and Austronesian. (Regarding further theories of Linguistic superfamilies, see Assadian & Hakola 2003, *Sumerian and Proto-Duraljan*, reviewed by Nair, B. Gopinathan, in *I.J.D.L.* XXXIII:2:233-239, June 2004).

The authors reiterate that the one-to-one correspondence between genetic clusters and linguistic families is "remarkably high, but is not perfect". *Language replacement* has been historically documented, e.g., Latin spread in Western Europe, and the more massive case of European languages in America and Australia. *Gene replacement*, however, has been neither as sudden nor as thorough. The authors detail variations among Afro-Asia languages and their speakers, as well as those in the Uralic, Sino-Tibetan and Austronesian speakers, pointing out that Basque is the only pre-Indo-European language surviving in Europe. Another special case is of the Na-Dene who are of uncertain origin but may belong to an older Asian family called Dene-Caucasian, remaining separate from Amerinds, though there were many opportunities for admixture.

"Our findings demonstrate that the association between linguistic families and the genetic history of humans is far from random and the significance tests confirm our conclusion. It is however unfortunate that most of the studies have used linear correlation coefficients between genetic and linguistic distances. There is a serious drawback in testing the significance of such correlations. Possible statistical solutions or, by a direct comparison of trees (may be a better method)". (p. 101)

They find the explanation of the parallelism between genetic and linguistic trees in the common effect of factors determining differentiation of either. Fission and migration cause reciprocal isolation and genetic as well as linguistic distance, as reflected in geographic patterns of variation. In Section 2.9, they show that observations are close to expected values within a range of 800 to 1,600 km. Conversely, small population size favours faster genetic differentiation, but the mechanisms of linguistic variations are not sufficiently known. The parallelism may also be broken when they are subjected to different constraints.

Language replacements (S. 2.6.d.) may be due to population expansions to previously uninhabited places, or to places previously occupied by a less technologically advanced people. The latter may then be suppressed, enslaved, or absorbed - the most important pre-historic case was of 'farmers' who advanced into areas previously occupied by hunter-gatherers all over Europe and Asia. Another cause is conquest by a minority that imposes its language and culture on the majority. These causes may not have similar or corresponding consequences on the gene frequencies. In India, Africa, etc., there are tribes showing inconsistency between language and genes. African Pygmies acquired few languages from neighbours, but show partial gene replacement. Thus, a number of situations are possible, and the authors plead for more systematic quantitative studies.

S. 2.6.e. takes us into *Glottochronology* (*Lexicostatistics*). The assumptions of constant rates of change and homogenous replacement rates are not substantiated. Hence, there is a tendency to underestimate earlier times of separation of languages. Despite this, the time of origin of the Indo-European family is taken as 5,000 years ago. Renfrew equated the spread of the languages with that of farming from the Middle East, which would date it back to 10,000 to 20,000 years ago. Gene distance indicates that a minimum of 9,000 years must have elapsed to explain the differences among the populations concerned. An upper limit of 17,000 years was obtained on the basis of separation of Indo-European speakers from Berbers, but Indians were not included in this calculation because they are highly hybridised with Southeast Indians, who speak Dravidian and other languages. Similar discrepancies are found between the dating by Glottochronology, in contrast with gene frequencies.

The effect of *mass migrations* is analysed in S. 2.7. Transition to Food Production (Farming) from Food Gathering was explosive. Agricultural techniques were carried into territories occupied by hunters and gatherers, forcing them back into more remote peripheries, and gradually entering into socio-economic exchange relations. These transitions have been dated fairly accurately by archaeological techniques. Domestication of animals, pastoral nomadism, and complex agricultural systems arose. A series of maps indicate chronology, and theoretic models have been explained. A chart on p. 111 indicates the nature of demic (population) expansion.

S. 2.8 correlates these findings with values derived from polymorphisms indicated by DNA markers. Table 2.7 (p. 112) shows period of change, people concerned, migration, time taken, and factors favouring

expansion. Thus, 40,000 to 60,000 years ago, humans migrated from Southeast Asia to Australia, thanks to superior language skills. They occupied Europe between 35,000 and 40,000 years ago. Using boats, Neolithic farmers from Middle East moved to Europe about 10,000 years ago. Nomads from European steppes mastered horse-breeding and military organization to plunder other people in Europe and South Asia, from 4,000 to 500 years ago. These trends continued during the historical period too.

The rest of the Chapter is mathematic analysis of *DNA polymorphisms*, and maps of frequencies of single genes and haplotypes. These are presented through variograms, showing genetic variation and geographic distance. Maps of 'single genes' are exhibited, indicating probable locales of origin of individual alleles. Special mention is made of 'sickle cell' as an instance of "balanced polymorphism", and thalassamia, and their correlation with different types of *Plasmodium*-caused malarias. The "principal components" analysis facilitates production of "Synthetic Maps", the components comprising groups of genes linked through correlation coefficients. The degree of homozygosity (least variation) has been tabulated (Table 2.12.1). As may be expected, the lowest values (therefore, highest heterozygosity - most hybridisation) are encountered in Middle East, Europe and Western Asia, historically locus of maximum population movements. It is greatest among Caucasoids. Maps show correlation with climates and skin colour.

Section 2.14 reverts to origin of major mutants, especially haemoglobins. Sickle cell haemoglobin S and its connection with malaria was first proposed by Haldane (1949). Heterozygote AS (A for normal) is partially protected against *Plasmodium falciparum* that causes the most dangerous form of malaria. The evidence is not sufficient to rule out independent mutations in different but comparable ecological situations. The Chapter concludes with a sober reflection: "the number of populations that can enlighten us on the past history of humanity is shrinking continuously From the point of view of genetic history, we are an endangered species" (p. 157).

Chapters 3 to 8 (both inclusive) deal with individual continents. Each begins with a general description (supported with maps) of Geography and Environment; followed by Pre-history and History, Linguistics, Physical Anthropology, Genetic Analysis, Studies of Single Genes, Synthetic Maps, and a Conclusion. Space does not permit detailed summaries here. Some interesting information, however, may be extracted.

Africa

The fossil remains of the earliest humans have been found in various places in Equatorial and South Africa. African Bushmen (including Pygmies) may be the earliest representatives of amh. About 1,400 languages are spoken, one-fourth of all the world's languages. They are grouped into four major families. I have arranged them in the following Table.

S	Name	NL	NS	Remarks
1.	Khoisan	30	1,20,000	Western Africa; characterized by "click" sounds as consonants
2.	Niger-Kordofanian	1,000	180 million	These include the Bantu languages, and spread over most of Africa
3.	Nilo-Saharan	140	11 million	Mostly around the Sahara; speakers nomadic, pastoral and herders
4.	Afro-Asiatic	240	Number not reported	One of these, Ancient Egyptian, is extinct

[S = Sl. No., NL = Number of languages, NS = Approximate Number of speakers]
[Source: pp. 164-165]

The Bantu languages form a sub-family with about 500 languages and 100 million speakers. Bantus, mainly agriculturists, expanded faster than other indigenous populations.

The Pygmies are the shortest humans in stature; though they have normal levels of growth hormone, the levels of growth-hormone receptor (GHR) and a growth factor are low - so they do not show adolescence growth spurt. This may be ecological adaptation to thick moist forests in which they have always lived; they are hunters and gatherers and small stature aids mobility and camouflage. They live in highly mobile small groups of about 30 individuals; there are three geographic groups on the basis of genetic markers, as well as linguistic differences. Skin colour tends to be yellow, eyes narrow and oblique, but without Mongolian folds, females show steatopygia (accumulation of fat high over buttocks), and Hottentot "apron" (hypertrophied elongated *labia minora*).

The authors add that, "If modern humans originated in Africa, Africans must have migrated to Asia at an early time, through Suez, but also possibly further south, from Ethiopia" (p. 192). Contrasting with Pygmies are the "Elongated" phenotypes, of pastoral nomads. Their genetic characteristics have not been fully researched.

Asia

The amh occupation of Asia soon after it emerged in Africa threw open the colonization of the whole world. There may have been two major migration routes, the clearest evidence of the southern being found in Southeast Asia including South India. Complex geography has led to vast variations of types, evident even in pre-historic times. Special importance rests with nomadic peoples of Central Asia - they domesticated camel and horse, invented saddle and stirrup; thus enhanced mobility enabled them to conquer other people. Many nomadic people prefer that lifestyle, e.g. the Gypsies of Europe. The book devotes detailed treatment to the various regions of Asia, each with important variations in history and development. China deserves special mention because it is one of the few regions showing signs of human habitation including *Homo erectus* fossils, dated back to a million years ago. No Neanderthals have been found, but the earliest specimens of *H. sapiens* date back to about 3,00,000 years ago. Amh remains have been dated back to about 67,000 years ago. It is mainly on the basis of this ancient lineage that theories of polycentric origins had been built.

In the *Indian sub-continent*, Mesolithic cultures have been dated to about 10,000 years ago. Indus Valley Civilization is briefly described; there is no clear evidence of 'violence' as cause of its disappearance, from supposed "Aryan" attacks. The authors report that "indigenists" (= those who support origination by local people) are now gaining ground over the opposition.

"The events accompanying the arrival of the Aryan pastoral nomads from the oases of Central Asia are probably better described as a migration rather than a conquest or invasion, but pastoral nomads clearly introduced a social stratification and segmentation of all-India based on religion and politics, in which they took the upper classes" (p. 210).

The authors also touch on Caste system, and cite K.S. Singh's initial papers on *People of India* Project. Obviously, some of the detailed Physical

Anthropology data in the subsequent volumes were available only after the authors 'closed' their database.

A separate sub-section is devoted to "Tribals" (*sic*. The use of the adjective as a noun has been adopted obviously from Indian usage).

"It is clear that Indian tribals form a large and heterogeneous population, made up mostly of relic populations, but also of later arrivals that were never totally absorbed in the Indian culture. One sees all stages of acculturation, from groups accepting and in part practicing Hindu customs, to groups who are positive toward them but do not practice them, and finally to others who are negative or indifferent. Linguistics is a partial help. Indo-European languages are also perhaps the most common among tribals and are spreading rapidly. Dravidian languages, which were perhaps more common earlier, are limited to the southern and central-eastern subcontinent. Two other linguistic families are spoken by tribals. In East Bengal and in the Eastern Himalaya region, Tibeto-Burman languages are the most common. Two groups of languages from the Austro-Asiatic family are spoken in different pockets of India: the Munda and the Mon-Khmer Although they speak a language of eastern origin, the Munda's physical appearance is not Oriental". (p. 213)

Mention is made of people of the Andamans; the authors assert that their language is related to "the Indo-Pacific family" - the authority for this statement is not clear, but probably from Ruhlen 1987. Genetically, they exhibit a high degree of homogeneity, because of the least admixture with other populations, and probably also because of Mendelian Drift. The authors urge further studies because they may represent a 'missing link' between Africa and Australia. Kadar of Kerala seem to share some of these characteristics, but that may be due to later intermixture with Africans. (The Physical Anthropology of Kadar has been the subject of study over several decades, cf., Tyagi D. in Menon T.M. (Ed.) 1996, pp. 86-92, *Encyclopaedia of Dravidian Tribes*, Vol. II, I.S.D.L., Thiruvananthapuram.). *Dravidian* is not associated specifically with any unique genetic correspondences. Some tribal communities could have had 'pre-Dravidian' languages; "Among the most interesting pre-Dravidian people are the Vedda of Sri Lanka, a Negrito group now reduced to very small numbers and largely acculturated (they speak an Indo-European language)."

Linguistics: Ten phyla are observed: Uralic-Yukaghir, Chukchi-Kamchatkan, Altaic, Sino-Tibetan, Austric, Dravidian, Indo-European, Afro-Asiatic

and Caucasian. Burashaki (Northern Pakistan mountains), Ket (Central Asia), Gilyak or Nivkh (Amur river valley, East Siberia), and Nahali (Central India, though it is considered by some to belong to Munda). The authors have based themselves only on a small corpus of linguistic studies, especially those easily available in U.S.A., and lean heavily on Greenberg and Ruhlen. They have not even mentioned the vast volume of work that has accumulated; their databank on Dravidian languages seems to be particularly deficient. Of course, the detailed maps of Linguistic Traits, in Singh K.S. (Ed.) 1993: *An Anthropological Atlas*, Vol. XI, People of India Series, would not have been available to them.

Genetic data: The authors have adopted regional units rather than the entire Continent for studies, obviously because of wide variations. As far as India is concerned, a genetic tree shows maximum distance between Kadar and Munda. There are two clusters corresponding to Dravidian-speakers: one comprising Brahmin Telugu, Chenchu, Gondi, Konda and Javara Telugu, and the other, of Kolami, Naiki, and Parji Gadaba. Other Dravidian speakers are so intermixed with populations of other language-speakers that they are not genetically marked off. Interestingly, however, "Synthetic Maps" of single genes show marked difference between South and North Indian populations in the case of several 'principal components'. The data shows close similarity to the reports in Singh K.S., Bhalla & Kaul 1994: *The Biological Variation in Indian Populations*, People of India Series, Vol. X - of course because the source materials were probably the same. Basu et al 2003: "Ethnic India: A Genomic View", *Genome Research*, 13: 2277-2290 surmised that the Austro-Asiatic tribal communities were the earliest settlers in India, and that a major wave of humans entered India through the northeast. Dravidian-speaking tribal communities were possibly widespread throughout India before the arrival of Indo-European-speaking nomads, but retreated to southern India to avoid dominance; the upper castes show closer affinities with Central Asian populations.

Europe

The earliest humans were *H. erectus* and archaic types like Neanderthals. Opinion is still divided whether amh coming in from Africa and Asia suppressed earlier types completely or there was a fusion of genes. Agriculture spread from the East westward. The colonizers had superior technology in boats and navigation as well as in land transport. After A.D. 1500, there was rapid growth of population, and migration from Europe.

Physical Anthropology: South Baltic region may be considered as a possible place of origin of mutations to light pigmentation, because 'darkness' increases

regularly and concentrically around it (p. 286). Lapps, Sardinians, Basques and Icelanders form 'outliers' as the most different from the other clusters. A high degree of genetic intermixture continuing over millennia is responsible for wide variations noted. Genetic evidence shows gradient from Middle East, mixing with local pre-agricultural populations - "... Mesolithics were slowly absorbed into the society of advancing farmers" (p. 296). The speculative element is whether hypothetical Neanderthal ancestry has left any trace in present populations. Of odd interest would be reference to a joint work of living legend Dravidianist Zvelebil K.V. and his son, Zvelebil M. (1988; "Agricultural Transitions and Indo-European Dispersals", *Antiquity* 62:574-583) - they had criticized the authors' theory of 'demic diffusion of farmers in Europe'.

Linguistics: The great majority of the languages belong to the Indo-European, consisting of families Armenian, Albanian, Tocharian (now extinct), Indo-Iranian, Greek, Italic, Celtic, Germanic and Balto-Slavic sub-families. There is no consensus about the place of origin of either the languages or of the people speaking them. Many theories are discussed. "The problem of reconstructing a tree for Indo-European languages has been considered almost insurmountable" (p. 263). Four Uralic languages - Hungarian, Finnish, Lapp and Estonian - are also spoken in Europe.

America

The prehistory is shorter than that of any other continent. The peopling of the continent coincided with the passage of nomadic Siberian hunters from Northeast Asia to Alaska not earlier than 35,000 years ago. There is little evidence of archaic *H. sapiens* relics. The oldest in-migration was of Paleo-Indians, probably in different waves. The second, *circa* 15,000 to 10,000 years ago, left behind the Na-Dene family of languages in southern Alaska and north-western North America. A third was of the Eskimo-Aleut, but Siberian Eskimos are believed to have re-entered Asia after settling down in America. Greenberg, Ruhlen, etc., propounded this theory on linguistic grounds, and it is supported by genetic data.

Physical Anthropology: The evidence supports the three-migrations theory, showing that the Na-Dene formed a distinct cluster. The "Synthetic Maps" also show a north-south gradient, emphasising distinction between Na-Dene and Amerind populations, Eskimos being in the middle. The congruence between genetic and linguistic divides is well-marked and has been

subject to a great deal of studies. The authors consider the wide difference in views of various authorities as due to the consequences of different methods of analysis and statistics adopted by them.

Linguistics: There is diametrical opposition between "splitters" who sought to list the languages as unrelated small families, and "lumpers" who classify them under Amerind, Na-Dene and Eskimo-Aleut. Table 2 below attempts a listing.

Family	NL	NS	Remarks
Amerind	583	18 million	Sub-families: Almosan, Keresio- uan, Penutian, Hokan, Central American, sub-families Tanoan, Uto-Aztecan, Oto Manguaeen; Chibcan-Paezan in SW Mexico, Venezuela, Brazil, etc.; Paezan in Florida, Colombia, Ecuador; 20 Andean languages; Equatorial- Tucanoan in Brazil, with the largest number of sub-families, including Arawakan and Tupi- Guarani; Ge-Pano Caribbean with three or four divisions, etc.
Na-Dene	2	About 2,50,000	The two sub-families are known as Haida and the Athabaskan
Eskimo-Aleut	10	85,000	700 people in Aleutian Islands speak Aleut. 600 people in Russia speak three Eskimo languages. The Asian Eskimo languages belong to the Yupik subgroup, found in SW Alaska also. Alaskan Inuit, Canadian Inuit and Greenland Inuit are the other languages.

[NL = Number of languages, NS = Approximate Number of speakers]

[Source: pp. 318-320]

Australia, New Guinea and Pacific Islands

Interestingly, Australia separated from Asia well before humans emerged, but there is no agreement on the date and mode of arrival of amh. The earliest suggested date is 60,000 years ago. The only domesticated animal was the dog, 'dingo', one of the few non-marsupial mammals in Australia. The oldest boomerang is dated back 10,000 years ago. New Guinea was peopled about 40,000 years ago. The Pacific Islands were colonized by amh only from about 1500 B.C.

Physical Anthropology: The Queensland tribes are distinct 'outliers', with Negrito characteristics similar to those of New Guinea. The people of the Pacific Islands are of different stock.

Linguistics: The Papuan (New Guinea) languages are members of the "Indo-Pacific family", which according to Greenberg *cit.*, Ruhlen 1987, includes also the Andamanese languages. The largest and most widely spread are Austronesian languages, spoken from Madagascar to Polynesia. About 170 Australian languages are still spoken, some by very small numbers. It is surmised that originally, there were 400-500 languages; many became extinct. New Guinean languages are distributed in 10 sub-families. In Pacific Islands, there are about 1,000 languages belonging to Austronesian family.

Chapter 8 is titled *Epilogue* and is a long summary. It is of general interest, expounding the uses of genetics in tracing human evolution, discussing the merits of different methods of analysis, and outlining future courses of research. The most disarming feature is that the authors do not claim that their work is the 'final word' but repeatedly emphasize the need for further studies, advocating greater use of the statistical techniques that they have developed - certainly they are superior and have more analytical power than many other techniques previously used. Section 8.5 is of interest as it focuses on *Linguistic Evolution*. The observed congruence between genetic and linguistic evolution can be explained only by multi-disciplinary studies.

However, a vital difference between genes and languages remains to be explicitly stated. Genes are 'givens' outside human volition - they are the resultant of global biological, chemical and physical processes. Humans can only manipulate them in such ways that a culturally homogenous population has a greater or lesser percentage of members with a specific though variable endowment of genes, through selective breeding, but subject to mutations. Presumably, genes bestow on all human communities superior capabilities

of communication, of which "Language" is the most powerful. But every individual language is a cultural construct, designed and developed for achieving specific though ever-widening ranges of objectives, and for specific populations, the composition of which may alter drastically over time and space. Languages are thus much more amenable to human choice than genes.

A very painstaking work, written with the lay reader in mind, it is rewarding reading. It can be used as a textbook at undergraduate and postgraduate levels, and is a mine of information. Though "frightening" at first sight, it explains techniques used for statistical analysis in a step-by-step procedure, taking away the mystique and mystery that usually surrounds such techniques. The discussion is lucid, and further explained by elegant maps and charts that hide complicated mathematics involved in preparing them. Research on the subjects treated has been progressing so rapidly that subsequent materials confirm some of the authors' conclusions, and modify many others. The linguistic material is sourced rather narrowly, drawing heavily on just a few authors. The classification adopted by Ruhlen 1987 is accepted as authoritative. The literature cited in the exhaustive Bibliography reveals paucity of titles on Linguistics, especially in Dravidian. But the placement of linguistic evolution in the context of the genetic evolution of the human being makes it fascinating reading.

Postscript

Thirty-one years ago, Prof. V.I. Subramoniam (VIS) contributed an insightful Foreword to Panikkar G.K. 1973: *Description of the Ernad Dialect of Malayalam*, D.L.A. Publications, Thiruvananthapuram. He emphasized "Regularity" in both languages and dialects.

In the fourth page, VIS distinguished two types of "mathematical generalisations", viz.,

".... (1) the mathematical generalization which will always be constant and applicable to every element in any part of the world, and (2) the statistical generalization like the Hardy-Weinberg Law for population genetics which is built on sampling techniques".

By the first, VIS had in view, obviously, formalization of the structure of language by Chomsky and others, leading to Transformational Grammar, which claims to be 'universal', i.e., independent of the specificity of individual languages. The validity of the propositions of this theory depends

only on their internal consistency, provable by the laws of deductive logic. Thus, the formalization is *Meta-logical*, and provides schema for quantification in a formal system of the qualitative statements of Grammar - it is 'paradigmatic' in the sense that data from any language can be quantitatively formatted into the schema. In other words, the "mathematical generalization" is actually a formal logical system into which 'mathematicalized' or quantified data from any language can be put in, and processed in a uniform manner, claimed to be universally valid. Despite the elegance of the theorems in this theory, like all higher-order statement-systems in any formal logic, Gödel's Theorem applies, and they cannot be "Complete". Over nearly half a century, linguists applied Chomskyan dialectics to several languages. The data fed into such studies were, however, the statement systems in the languages concerned, and not quantities. As decision procedures, they at best falsify some statements, and cannot be used to completely describe any Grammar. Therefore, there has been a persistent withdrawal from the Chomskyan schema in later years.

Statistical systems are quantified descriptions, and therefore, have application in any scheme in which quantities are to be handled. It would be premature to assert that Chi-square techniques will suffice to survey "all important characteristics of (a) dialect" or language. Statistical methods are refined and sophisticated, and provide many other tools for the analysis of data. Sampling techniques can be devised to suit the type of samples that will be meaningful in any specific analysis, so that 'bias' can be reduced if not eliminated. Tests of significance, and multivariate analyses can bring out "regularities" wherever they exist. "Rules" can be tested for 'goodness-of-fit' if quantified by a number of cases that satisfy them. Statistical "distance" may be useful in dealing with "exceptions", the treatment of which VIS has touched upon.

VIS had thus initiated a pioneering discourse on the use of Mathematics and quantitative techniques in Linguistics. There is no substitute for painful data gathering, formulation of statistical methods, and tests for significance, using the rigorous techniques of modern Statistics. VIS had also drawn attention to similarity between Genetics (in Biology), and Linguistics. He remarked that "(Historical and Comparative Linguistics) had not taken the cue from the later developments in genetics about its treatment of change", and surmises that it is because the subject matter of Linguistics is inorganic - "in language, the gene, the basis of language progeny, is either non-existent or not yet identified". But he hoped that "further research may prove that in languages, gene-like entities are identifiable".

Glottochronology (*Lexicostatistics*) is a special case of application of statistical methods to Linguistic categories. By analysing data on varying percentages of a given "basic word list" that are cognates, a pattern was seen to emerge the quantitative interpretation of which indicated their distance from a language in which the cognates occurred most frequently. From this, and on the basis of observation of a few languages, it was assumed that two languages would have about 86% words in common after 1,000 years of separation. The method has been severely criticized for obvious reasons: the assumption of a rate of change that remained constant for all languages is not substantiated by a sufficient number of sample studies. The method becomes less definite the further back in history it goes. Even the slightest mistake in the compilation of word samples can result in huge magnitudes of error. Instead of refining the techniques, the theory was given up.

T. MADHAVA MENON
I.S.D.L. Thiruvananthapuram

JAINISM IN SOUTH INDIA

P.M. Joseph (Ed.), 1997, HB, Demy 1/4, pp. xiv+436+xxvi, Rs. 1,000/- (US\$ 125/-)

This book, in two parts, covers everything connected with Jainism - its origin, growth, decline and residual survival in South India. While the first part is the assessment of the contribution of South Indian Jainism, the second deals with its overview. Both are complementary, the second one enabling the understanding of the first. The work clearly illustrates how Jainism became dominant in the South.

KERALA PAANINIYAM OF A.R. RAJA RAJA VARMA

C.J. Roy (Tr.), 1999, HB, Demy 1/8, pp. xxviii+332, Rs. 400/- (US\$ 40/-)

The original work is a classic in Malayalam grammatical literature. In the late 19th and early 20th centuries, there were no compeers to A.R. in any of the South Indian languages. A.R. had an analytical mind. Though well-versed in Paniniyam, he did not follow it blindly. Wherever Paniniyam was not found applicable, he took an independent course of analysis.

The English translation enhances the merit of the original, providing an unambiguous understanding of it with maximum accuracy. An excellent translation of a difficult but most valuable text.

Review

PRONOUNS. D.N.S. Bhat. 2004. Oxford University Press. pp. 320 + xii.

Dissatisfied by the traditional definitions of the term 'pronouns' as words that 'stand for' nouns delimiting them to a single category, generally denoting different sets of words, viz. personal pronouns, demonstratives, interrogatives, correlatives, definites, indefinites etc., notwithstanding the fact that they form two different categories based on their distinct functions, eventually distinguished as personal pronouns and proforms, D.N.S. Bhat has unravelled many intriguing traits of pronouns. He defines and distinguishes these two categories, viz. personal pronouns as single-element expressions being either speaker or addressee denoting speech roles as primary function contrary to proforms which are prototypically dual structures indicating a general term and a pronominal element, the latter specifying the function in which the former is used. Personal pronouns comprise first and second persons whereas proforms accommodate rest of the types. Proforms may embrace different categories like nominal, adjectival, verbal, adverbial etc., whereas personal pronouns bear only nominal.

Bhat elucidates these and several other related notions within the framework of this monograph comprising 12 chapters mainly organized into two parts preceded by an introduction stating the various traditional and modern definitions of pronouns focusing their merits and demerits (Chapter 1). Part I deals with the characteristics of personal pronouns, viz. the relation with the referent and their dissociation (Chapter 2), co-reference and non-co-reference effected through different markers referring to non-co-reference contrary to third person pronouns and demonstratives where special markers indicate co-reference (Chapter 3), association with general categories like gender denoting social distinctions and with number showing conjunction unlike plurality (Chapter 4), conflicting characteristics (Chapter 5),

the position of third person pronouns manifesting a typological distinction among languages probing whether these pronouns function as part of the system of personal pronouns or demonstratives, in other words, proforms in those languages (Chapter 6). Part II deals with the general structure of proforms (Chapter 7), their constituent elements (Chapter 8), some of their distinguishing features (Chapter 9), affinity between interrogative and indefinite pronouns (Chapter 10), other related problems (Chapter 11) and concluding remarks (Chapter 12).

Bhat has rightly pointed out that personal pronouns can neither be regarded as definite or indefinite. They bear an obligatory anaphoric association with all pronouns belonging to the same person as well as a referential relationship with noun phrases that indicate the identity of their referents. They do not take modifiers and their associations with gender number depict distinctions in speech roles. Proforms on the contrary are distinct from personal pronoun as well as nouns, as they denote general concepts conforming to any of the lexical categories, viz. nouns, verbs, adjectives or adverbs. They may also function as determiners related with specific lexical items pertaining to nominal, verbal, adjectival, adverbial categories. The notion of definiteness and indefiniteness associated with them is semantic in the case of proforms whereas that in noun phrases is pragmatic. Proforms show difference from nouns with regard to the reference they establish.

The personal pronouns in several languages comprise only first and second persons. Third person pronouns, however, show identity or derivational relationship with any of the demonstrative pronouns, other proforms and nouns. This distinction is largely in agreement with the positions held by several scholars regarding third person pronouns, viz. Lyons (1977), Benveniste (1971), Harre (1990) and others. Personal pronouns and third person pronouns show considerable differences. Personal pronouns have suppletive stems with oblique case and they do not take the ergative case marker while third person demonstrative pronouns can have stem extenders with ergative case marked in a transitive clause (Helmbrecht, 1999).

An Australian language, Khasi derives its demonstrative pronouns from third person pronouns through affixation (Nagaraja, 1985); a Munda

language, Kharia derives third person pronouns from demonstratives by affixing the element *kar* 'person'. E.g. demonstrative *u-* 'this', third person pronoun *u-kar*. Bhat considers these as sustenance for the view that third person pronouns are incompatible with the system of personal pronouns. However, it is hardly possible to conform to this, as there are several languages in which third person pronouns are congruent with personal pronouns and are quite diverse from demonstrative pronouns. For example, it is reported that a Tibeto-Burman language, Angami, shows distinction between third person pronouns and demonstrative pronouns and places the former in the system of personal pronouns (Giridhar, 1980). The third person pronouns of this language show close identity with first and second person pronouns in the formation of dual and plural forms while demonstrative pronouns show difference as they suffix gender markers to demonstrative determiners. These demonstrative pronouns are not related to third person pronouns.

Bhat postulates certain typological distinctions such as 'two-person' languages and 'three-person' languages, the former showing affinity between third person pronouns and demonstratives, viz. affinity with all demonstratives, related to remote / non-remote demonstratives, gender markers or non-human reference only and the latter not exhibiting any such relationship (Chapter 6). His typological study of 225 languages indicates that numerically two-person languages (126) are greater than three-person languages (99). The primary basis for such a classification pertains to the inclusion of third person pronouns either under demonstratives or personal pronouns. He has rightly stated that the relationship between third person pronouns and demonstratives can be either complete or partial. In 52 languages, it can be regarded as complete. Among these, 33 languages do not exhibit any third person pronouns as such whereas demonstratives function as third person pronouns. Four languages show the occurrence of distinct third person pronouns though demonstratives can also be substituted for this. In 15 languages, third person pronouns are derivationally related to demonstratives. The remaining 74 languages show a partial relationship between third person pronouns and demonstratives which are of diverse kinds, viz. restricted to remote demonstratives, between non-singular form of the third person pronoun and remote demonstrative, non-remote demonstratives, third person pronouns and demonstrative pronouns sharing the same set of gender or noun class markers.

Bhat says that since the notion of affinity or derivational relationship is a matter of gradation, there cannot be a clear-cut demarcation between the unrelated and related groups and they may overlap. He further states that third person pronouns are deemed to be related to demonstratives in this study only in the case of languages in which the affinity is quite clear or they are historically related. Regarding the common absence of gender distinctions in first and second persons, he opines that it derives from its irrelevance for the functioning of these pronouns. Its presence in the third person pronouns and nouns on the contrary, provides further information about their referents which perhaps may be useful for identifying those referents. Even in the case of third person pronouns, certain languages show a three-way distinction, Masculine / Feminine / Neuter, a few others, a two-way distinction Masculine, Feminine / Neuter, and yet others no such distinction.

The cross-linguistic variation in respect of gender distinction among third person pronouns seems to correlate with the distinction between two-person and three-person languages. For instance, Proto-Indo-European is a two-person language exhibiting a system of personal pronouns comprising first and second person and a two-fold proximate-remote distinction among the demonstratives. The demonstratives are also used as third person pronouns in many of the daughter languages (Baldi 1987).

Proto-Dravidian is also a two-person language where its third person pronoun is considered to be indistinguishable from demonstratives. The latter is reconstructed as marking a distance oriented three-fold deictic distinction among **i-* proximate, **u-* intermediate and **a-* remote in demonstrative system. Among Dravidian languages, for instance, Tamil, Kannada, Tulu have dropped the intermediate demonstrative whereas others like Kuvī have increased the number of distinction in demonstratives. Israel (1979) has asserted that a five-fold distinction occurs in Kuvī, viz. *ī*, *ē*, *ū*, *hē*, *hū*. But here, the distinction does not involve any reference to the addressee. Dravidian languages show varying kinds of gender distinctions that are restricted to third person pronouns.

On the other hand, Oceanic languages are said to be three-person languages and most generally, they exhibit a three-way directional-locational-temporal distinction among demonstratives corresponding to the three

grammatical persons. However, the use of third person pronouns as quite distinct from demonstrative pronouns can also be seen in these languages and very few of them show gender distinctions among pronouns.

Bhat avers that the so-called interrogative pronouns are not much concerned with interrogation than with indefiniteness and the notion of indefiniteness that can be related with these and other pronouns is different from the one that can be linked with noun phrase.

The affinity between different sets of proforms such as interrogatives and indefinites or relatives is rather confounding. For instance, interrogative and indefinite pronouns in many languages show either identical or derivational relationship, the latter involving the addition of a conjunctive or disjunctive particle to interrogative pronouns. Here, interrogation changing to indefiniteness in association with conjunction or disjunction is confusing. Bhat resolves this puzzle by asserting that no interrogative pronouns as such occur in these languages. However, interrogation and focus are signified not by pronoun but by other strategies, viz. using the verb in the interrogative mood, a question particle or intonation etc. The function of interrogative pronouns as relative pronouns in languages in which interrogatives are related to indefinites can be stated explicitly if the pronouns are considered as indefinites rather than as interrogatives (Chapter 11).

The primary function of personal pronouns in certain languages is depicted by their bound forms and in others by their free-forms. This is an important typological distinction worthwhile for crucial examination. Bhat, however, did not pursue it further in this monograph.

In sum, by providing a wide range of cross-linguistic data concerning more than two hundred languages pertaining to diverse families, attempting an in-depth study of an apparently simple but chaotic topic of morpho-syntactic, semantic and pragmatic relevance, linking theory and empirical research, Bhat has exemplified many a feature of pronouns for further pondering through this interesting and rather innovative typological work.

B. GOPINATHAN NAIR
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LANGUAGE ACQUISITION: THEORY AND PRACTICE

V. Syamala, 1993, HB, Demy 1/8, pp. xi+265+x, Rs. 350/- (US\$ 60/-)

An excellent exposition of language acquisition relevant to teaching and learning of the English language, the study contributes to research in psycholinguistics, with the comparison of findings with first-language-acquisition studies as well as other second-language-acquisition studies of English, and identifying universals in the processes of L₁ and L₂ acquisition.

NANDINAGARI SCRIPT

P. Visalakshy, 2003, HB, pp. x+282, Rs. 850/- (US\$ 85/-)

This elegantly-produced book of 281 pages has a systematic tracing of all Devanagari and Nandinagari letters with which Sanskrit manuscripts were written in some parts of South India. Priced modestly and bound well, it will be a worthy addition to any library, personnel or institution.

POINTS OF CONTACT BETWEEN PRAKRIT AND MALAYALAM

M.P. Sankunni Nair, 1995, HB, Demy 1/8, pp. viii+244, Rs. 400/- (US\$ 50/-)

This scholarly work deals with the inter-relation between the Prakrit and Malayalam languages, analyzed in a new perspective. Thorough in citing sources, the author has made a solid contribution to the study of Malayalam.

PROGRESS OF PHONOLOGY

T. Vasanthakumari, 2000, Demy 1/8, pp. xiv+189, Rs. 150/- (US\$ 20/-)

A theoretically-oriented book on phonology which covers all existing approaches to phonology in a masterly way. Useful for students and specialists in phonology.

SPEECH TECHNOLOGY:

Issues and Implications in Indian Languages

K. Nagamma Reddy (Ed.), 2000, HB, Demy 1/8, pp. xxviii+298, Rs. 450/- (US\$ 90/-)

The book collects eighteen presentations and a preface and summation both by K. Nagamma Reddy who coordinated the Seminar in 2000 in the P.S. Telugu University, Hyderabad, along with the 28th Annual Conference of Dravidian Linguists. The presentations are masterly and capture the latest trends in I.T. efforts in the Indian languages and their problems. This volume is well-printed, well-edited and priced very low.

Short Review

VALMIKI'S SANSKRIT. L.A. Van Daalen. 2004. Indian Edition. Delhi: Motilal Banarsidass Publishers Pvt. Ltd. Originally published by Brill Leiden.

This attractively printed book republished by Motilal Banarsidass is a well-documented volume trying to identify the correct reading/interpolation in *Vālmīki Rāmāyaṇam*.

The exemplary edition of *Mahābhāratha* and the learned introduction regarding the variation in reading by Sukthankar has been reviewed by me. The author of this book has also mentioned that work of Sukthankar.

Van Daalen's mode of presentation is different from that of Sukthankar.

The age of marriage for Rama and Sita is discussed from page 209 to page 222. The author brings in internal evidences to determine that Rama was 16 years and Sita was 12 years. The author brings in cultural details besides the internal evidences.

A theoretical summing up like what Sukthankar has done for which the world of scholarship gratefully remembers him is not done by Van Daalen. Continental scholarship, especially the Dutch men are fact-oriented in their research output. The enormous labour of the author is evident in all pages. The interpretation of *Vālmīki Rāmāyaṇam* can now be on a realistic tract.

Similar attempts for Kamban's *Rāmāyaṇam* in Tamil and Eluttaccan's *Rāmāyaṇam* in Malayalam will be most welcome. Scholarship in modern languages in India is more generalized and less based on facts, gathered from the texts and from other sources.

V.I. SUBRAMONIAM

THE FUNDAMENTALS OF MANUSCRIPTOLOGY

P. Visalakshy, 2003, PB, Demy 1/8, pp. xiv + 130, Rs. 150/- (US\$ 15/-)

This book covers manuscriptology, writing material, scribe and writing language, and script, etc., with an year-conversion as an appendix. Dr. Laddu of Poona observes in his introduction: "compact introduction and presented in a simple language".

THE GRANTHA SCRIPT

P. Visalakshy, 2003, HB, Demy 1/4, pp. 320, Rs. 1,000/- (US\$ 100/-)

This is a sumptuously produced volume tracing the Grantha script used to transcribe Sanskrit texts and later Malayalam and Tamil scripts in a worthy treatise to be possessed by scriptologists. In the foreword, Dr. N.P. Unni praises the work for its utility.

THE INTERNAL CONDITIONING OF PHONOLOGICAL SYSTEMS

André Martinet, 1996, HB, Demy 1/8, pp. 203, Rs. 290/- (US\$ 30/-)

A collection of rare articles of Martinet, this book contains his papers on linguistic economy. Probably the only functional linguist, he has clearly stated the linguistic changes within the structuralist framework. His work will surely attract linguists interested in phonology and linguistic change.

THE THEORIES OF TELUGU GRAMMAR

Bodduppalli Purushottam, 1996, HB, pp. 410, Rs. 500/- (US\$ 50/-)

This is a monograph of immense use to students of Dravidian linguistics in general and Telugu language in particular. The author has surveyed various theories of grammar from the early times to the present day. The work is a comprehensive account of the grammar of ancient and modern Telugu. This book has a subject index which may be of help to the student as a ready reckoner. Neatly printed and beautifully bound, the volume will be a priced possession to lovers of grammar and linguistics.

TOLKĀPPIYAC COLLADAIVU (Ta.) (INDEX OF TOLKAPPIYAM)

P.V. Nagarajan & T. Vishnukumaran (Eds.), 2000, Crown 1/4, pp. 371, Rs. 300/- (US\$ 60/-)

This work is a continuation of the variorum edition of the same published in 1996. For each word, the occurrence, meaning and grammatical details are given. This work will be of much use to researchers on Tolkappiyam and grammatical treatises in Tamil.



Short Review

THE PALLAVA COINS. R. Krishnamurthy. 2004. Chennai: Garnet Press. pp. 196 including two appendices and an index. Rs. 800/-.

This well-printed and fascinatingly-illustrated book on Pallava Coins is a work done with care and love for the subject, by an editor of a leading Tamil Daily whose circulation increases day by day. That work of editing the newspaper will absorb most of his time. Yet, R. Krishnamurthy found time to collect and identify them as Sangam, Pallava, Chola, Pandya and Chera. This is an admirable feat.

The Coins serialized are mostly those secured from Thirukkoovloor (105), Karur (87), Thailand, Sri Lanka, Madurai, Kumbakonam (1), not known (5). Thirukkoovloor and Karur are situated west of Trichnapally and placed under the Chera empire, especially Karur. The business connections between Thailand and Sri Lanka with the Pallava kingdom is now confirmed, which otherwise is inferred from other sources. The history of the Pallavas is made more definite by the Coins, and the borders of the Pallava kings are confirmed by the legends found on the Coins. Those who are interested in the historical growth of the writing system of Tamil will find the legends on the Coins providing evidence for the dating or for positing a date for the writing system.

The conquest of Vatapi is attributed to Narasimhavarman I, the son of Mahendra Varman I. Though the fight between the Eastern Chalukyas and the Pallavas began in Mahendravarman's time, it is his son - Narasimhavarman (630-668), with the assistance of his army general - Siruttondar, who sacked Vatapi.

The late P. Sundaram Pillai, on the basis of several generations of the Madathipathis of the Sambandar Mutt at Madurai, inferred the date of the synchronism of Siruttondar with Gnanasambandhar. Later inscriptional evidence was available to confirm the hypothesis of P. Sundaram Pillai,

which was praised by his contemporaries and by later scholars for positing the first milestone in the history of Tamil literature. Hence, the history of the Pallavas is important for the history of Tamil literature.

Another point to be noted is that Tamil Nadu was conquered by the Pallavas who were northerners, who brought Prakrit and Sanskrit to Tamil Nadu. Later, the Cholas brought Sanskrit scholars from Orissa and Bengal for the spread of Saivism. Ghatigas rose in large numbers in Tamil Nadu. In Kerala, the conquest of the northern kings is not attested. But, the migration of the Arya Brahmins, on the invitation of the chieftains and minor kings, led to the growth and spread of Sanskrit. Buddhism brought Pali; Jainism brought Prakrit. Later, both religions patronized Sanskrit. The spread of Sanskrit was due to religious affiliation by royal patronage and conquest in Tamil Nadu.

The interaction with Thailand and Sri Lanka for the sale of goods, and the cash economy replacing the barter economy, began with the Pallavas in South India. Later, it was encouraged by the Cholas and the Pandyas. The Cheras followed the cash economy in the West coast with Arabian countries. The interaction of the cash economy started with the early Pallavas, then the Cholas and the Pandyas, and, later, with the Cheras. This is only an inference, which needs confirmation.

Few misprints are in this book. I could detect only two even though I was careful in reading.

For several decades, this book and others of R. Krishnamurthy will be sought after by numismatists and historians for confirming their hypotheses, and by others for confirming their historical inferences.

V.I. SUBRAMONIAM

Short Review

COLLOQUIAL TAMIL. R.E. Asher & E. Annamalai. 2002. London: Routledge. pp. 314.

This book does, to a creditable extent, succeed in fulfilling the claim of its authors, viz. to facilitate correct oral communication in the Tamil language for those who wish to study it specifically for this purpose. Besides these, there is an introduction to formal speech and to the written language. Two sixty-minutes cassettes / CD-s, which are offered along with the book, complement the study material and make it a comprehensive self-educational package for the beginner. A useful introduction deal with the Tamil language, its various components and the age-old culture of the Tamilian. The Tamil-English glossary, explanatory grammar notes and reference grammar, a need-based vocabulary and the illustrations with their authentic Tamilian characteristics, are an added source of information and a practical aid to self-study. Other laudable features of the publication are inclusion of daily-life situations for informal as well as official communication, and references to some highlights of Tamilian culture like the *Tirukkural* and the Tiruvalluvar festival.

Asher and Annamalai have offered a truly worthwhile and effective tool for self-study for the serious student who wishes to acquire mastery over colloquial Tamil and an understanding of the historical and cultural milieu of the language.

A.P. SHARADA

THEOLOGY OF THE SAIVAGAMAS

(A Survey of the Doctrines of Saiva Siddhanta and Veerasaivism)

S.C. Nandimath, 2001, HB, Demy 1/8, pp. xii+440, Rs. 800/- (US\$ 80/-)

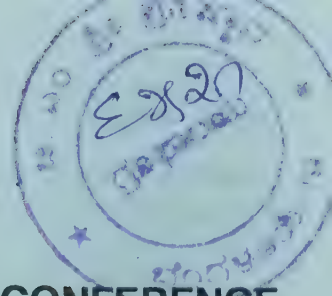
This well-printed and attractively-jacketed book was the Ph.D. thesis submitted to the London University in 1930. With the help of Justice Sri. V.S. Malimath who is the son-in-law of Dr. Nandimath and who was the Chairman of the Governing Council of the I.S.D.L. for six years up to A.D. 2000, the thesis was retrieved and printed with great care.

The thesis brings together the great contribution of the Bhakti poets and theologians of Karnataka, Tamil Nadu, Kerala and Andhra Pradesh. A scholarly researcher, T.N. Ramachandran of Tanjavur, concludes thus: "I should say the work is a well-written one. It is authentic. It is easy to read. The methodology followed is commendable. Even the Indian English of the author has a charm about itself. This work will sooner or later adorn every library worth the name. The sooner the better".

TOLKĀPPIYA MŪLAM PADA VĒRPĀDUGAL: ĀLNŌKKĀYVU (Ta.) (TEXTUAL VARIATION OF TOLKAPPIYAM)

K.M. Venkataramaiah, S.V. Subramanian & P.V. Nagarajan (Eds.),
1996, HB, Double Crown, pp. 460, Rs. 400/- (US\$ 50/-)

This is a massive and accurate work which lists the variations in readings found in published works beginning from the 1847 palm-leaf manuscripts, especially from U.V. Saminatha Iyer's Manuscript Library, Chennai, from different interpretations found in the annotators beginning from *Ilampuranar* of 12th century A.D., *Teyvacilayār*, *Cēnavaraiyar*, *Pērāsiriyar*, *Naccinārkkiniyar* and modern commentators like Balasundaram and others. The reasons for preferring one or the other reading are listed in the footnotes which are detailed. A total number of sutra-s which vary from one ancient annotator to another is also listed. An appendix containing the index of the first words of the sutra-s is also given at the end.



Report

**PROCEEDINGS OF THE 32nd ALL INDIA CONFERENCE
OF DRAVIDIAN LINGUISTS AT WARANGAL**

The 32nd All India Conference of Dravidian Linguists was held in the School of Folk and Tribal Lore, P.S. Telugu University, Warangal, Andhra Pradesh from 10th to 12th June 2004. The Conference was inaugurated by H.E. Sri. Surjit Singh Barnala, the Governor of Andhra Pradesh, and presided over by Justice Sri. P.R. Gokulakrishnan - the former Chief Justice of Gujarat and the Chairman of the Governing Council of the I.S.D.L. Dr. V. Prakasam, the President of the D.L.A., delivered his academic presidential address: *Linguistic Theory, Historical Linguistics and Comparative Studies: With a Few Comments on Dravidian Phonology*. The oil paintings of Sri. P. Coomaraswamy and Sri. C.R. Sankaran were unveiled by the guest of honour Sri. Ponnala Lakshamaiah, Minister for Major Irrigation, Government of Andhra Pradesh and Prof. V.I. Subramoniam, Hon. Director of the I.S.D.L., respectively. The other dignitaries present were Sri. Basavaraj Saraiah, M.L.A., Warangal, Sri. Mandadi Satyanarayana Reddy, M.L.A., Hanamkonda, Sri. N. Sivasankar, District Collector and Magistrate, Warangal, Prof. Chandrakanth Kokate, the Vice-Chancellor of the Kakatiya University and Prof. G.V. Subrahmanyam, the Vice-Chancellor of the P.S. Telugu University.

10.6.04 (Thursday): INAUGURAL FUNCTION (11 a.m. - 12.30 p.m.)

The inaugural function was held in the Senate Hall of the Kakatiya University on 10th June at 11 a.m. The chief guest of the function, the Governor H.E. Sri. Surjit Singh Barnala, inaugurated the Conference by lighting the lamp. In his inaugural speech, he said that India is a pluri-cultural, poly-ethnic, multilingual society wherein diversity and variation have been sustained as unique characteristic features. Mother tongue, which is the cultural storehouse of every linguistic group, has to be pursued by its native speakers. Effective teaching of the same in school and college curriculum is imminent today. The Government has been spending enough money in promoting languages like mother tongue and second-languages like English all over India, and Hindi in non-Hindi-speaking areas but more improvement needs to be brought out in their teaching. For developing better effective communication skills, linguists can play an important role in these areas of communication. Similarly, spreading literacy among the masses is yet another area which needs the attention of linguists.

He also emphasised that, as literacy plays a vital role in eradication of poverty by providing the necessary inputs for knowledge to pursue some

vocation, linguists need to contribute for improving the literacy of the masses by providing better teaching technology for promotion and sustainability.

Justice Sri. Gokulakrishnan mentioned that India is a treasure-land of cultural tradition, science and religion. He also said that Dravidian culture is one of the oldest and richest cultural traditions, having enviable language and grammar with unparalleled literary values. He emphasised that researches on Dravidian language and culture do not get sufficient encouragement from the people who are in power. He stated that though Sanskrit and Arabic are declared as classical languages, Tamil is not, though it has all the required characteristics.

Dr. Prakasam, in his academic presidential address, talked about the intricate relationship between theory and description from both synchronic and diachronic angles. He said that theory abstracts the generalisable points from data and provides us the format for effective description of data. He also mentioned that theory rests on certain initial assumptions and goals. He elaborated this by saying that a particular theory may at a stage say that the study of meaning is outside the scope of Linguistics. It is an assumption. The same theoretician or theoretical school may later change and say that meaning has to be accounted for in a description. The theoretical assumption thus changes across time. That kind of change leads to methodological change and also to change in notation. Only the first one can be treated as a change in the theory. In this perspective, he made some comments on Dravidian phonology also.

Prof. Kokate and Hon. Sri. Lakshamaiah felicitated. Prof. G.V. Subrahmanyam, the Vice-Chancellor of the P.S. Telugu University, welcomed the gathering and Prof. N. Bhakthavatsala Reddy, Dean of the School of Folk and Tribal Lore, proposed a vote of thanks. The function ended with the National Anthem.

Session I: PROF. EMENEAU CENTENARY LECTURES (2 - 6.30 p.m.)

Chairperson: Prof. V.I. Subramoniam

Prof. M.B. Emeneau turned 100 on 29th February 2004. This is a matter of joy for linguists in general and indologists in particular, all over the world. To celebrate his centenary, the D.L.A. had decided to hold a special session in his honour at its annual conference this year. Prof. B. Ramakrishna Reddy was the convener of the seminar. Nine papers were scheduled to be presented in this series but unfortunately Prof. R. Balakrishnan and Prof. Subhadra Kumar Sen could not come and Prof. Bhakthavatsala Reddy could present his paper only on the next morning, due to lack of time.

Prof. B. Gopinathan Nair (I.S.D'L.) spoke on *A Dravidian Etymological Dictionary and its Impact on Comparative Dravidian Studies*.

DED (1961), its supplement DEDS (1968) and the revised second edition DEDR (1984) by Burrow and Emeneau contain an assemblage of cognate vocabulary from a number of Dravidian languages, dialects and speech forms which are presented in an organised manner based on a tacitly worked-out system of phonological correspondences eventually furnishing evidence for a genetic link among the speech forms involved in the Dravidian family. Prof. Gopinathan Nair, in his paper, showed the impact of DED on comparative Dravidian studies over the past four decades, by looking at the overall development that took place during the pre-DED days beginning from Caldwell's time through the period of preparation, correction and revision of DED to the post-DED period.

Prof. Bh. Krishnamurti spoke on *Emeneau's Contribution to Comparative Phonology and Morphology of Dravidian*. Prof. Emeneau spent three years in India (1935-38) doing fieldwork mainly on the Nilgiri languages - Toda and Kota. He also collected adequate data on Badaga and Kodagu of South India, Kolami of Central India and Brahui of the Northwest (now in Pakistan). A large number of publications have resulted from this fieldwork. Prof. Krishnamurti has given a detailed account of comparative phonology and morphology based on Emeneau's papers dealing with Toda, Kota, Kodagu and Brahui.

Prof. P.S. Subrahmanyam's paper, *Historical Study of Toda Morphology*, contains some comments on Toda morphology in continuation of Prof. Emeneau's *Toda Grammar and Texts* (1984). According to him, Prof. Emeneau's greatness as a comparativist can be established by the etymologies he provided for the Toda words in DEDR and by the historical explanations he gave for the Toda suffixes in his work of 1984. Although he could explain the origin of some of the suffixes, there are many others for which he could not find the sources at that time. Prof. Subrahmanyam, in his paper, has investigated the origin of some of the suffixes that did not come under Emeneau's historical study.

Prof. K. Nagamma Reddy (Osmania University, Hyderabad), in *Dravidian Phonology: Contribution of Prof. M.B. Emeneau*, gave a detailed account of the phonological system of different Dravidian languages and that of Proto-Dravidian. She concluded her paper by saying that the impact of the Dravidian phonological system on theoretical phonology is somewhat minimal. Significant data on Dravidian phonology deserves analysis and description from different perspectives. This requires phonological and phonetic fieldwork on spoken varieties of literary languages and their dialects, and on minor, tribal and minority languages of the family.

Prof. H.S. Ananthanarayana (Mysore) spoke on *Prof. Emeneau's Contribution to Indic Studies*. Although Prof. Emeneau started his career as a Sanskritist, he is better known today as the greatest living Dravidiologist

and will always be remembered for his monumental work - *Dravidian Etymological Dictionary*. Since many other scholars spoke on Prof. Emeneau's contribution to various theoretical and applicational aspects of Linguistics, Prof. Ananthanarayana restricted himself to Prof. Emeneau's works in the field of Indic studies. He organised Prof. Emeneau's contribution under three heads, viz. literary, etymological and linguistic. He presented some details about each of these, pointing out its usefulness to the scholarly world.

Prof. B. Ramakrishna Reddy in *Convergence in Central India: Explorations of a Micro-Linguistic Area*, made a modest attempt to unearth the impact of Munda languages on Dravidian and Indo-Aryan. He also showed that the transfer or diffusion of structural features occurs from the marginalised or minor group of languages in that of major dominating sections as well. This latter finding goes against the common general conclusion that only minor languages converge towards major groups. Moreover, he showed that the central Indian symbiosis involves three genetically different linguistic families, which ideally represents Emeneau's definition of linguistic area (1956) as "an area that includes languages belonging to more than one family but showing traits in common which are found not to belong to the other members of (at least) one of the families".

Prof. N. Bhakthavatsala Reddy spoke on *Prof. Emeneau's Contribution to Folklore and Tribal Studies*. He pointed out that Prof. Emeneau's contribution to Indian and Dravidian studies concentrates mostly on Sanskrit folk-tale collections in the beginning and then on Kota and Toda tribes and their oral literature. During his stay in India, he was able to collect a number of Kota texts and Toda songs. In connection with fieldwork and methodology, he raised some questions for himself and answered them on the basis of his experience. He also mentioned that during that period, folklore, in one way or other, was connected with folk literature. Most of the theories evolved in folklore studies were based on folk-tales or other genres of folk literature. According to Prof. Reddy, Emeneau was not overpowered by that trend, but acquainted with multifaceted data, pertaining to the holistic culture of a community.

In the evening, a fine performance of Kuchipudi dance by Smt. Alekhyia was arranged by the organisers.

11.6.04 (Friday): SPECIAL LECTURE ON PRĀKRIT (9 - 10 a.m.)

Chairperson: Prof. Ramakrishna Reddy

Prof. Ananthanarayana spoke on *Prākṛit* language and its relation to Sanskrit. He gave three definitions of the word *Prākṛit*. First, he derived the word as a secondary form derived from *prakṛiti* 'source'. Hemachandra, in his *Prākṛit Grammar*, dealt with Sanskrit in the first seven chapters, and

Prākṛit was dealt with in the last chapter. Thus, Sanskrit is the source of *Prākṛit*. Second, he defines *Prākṛit* as one of the other varieties of Sanskrit. Vedic Sanskrit was one of the literary standards. There were several spoken varieties also which were known as Classical Sanskrit. He defines *Prākṛit* as one of the spoken varieties of Classical Sanskrit. Third, he defines *Prākṛit* as the speech of the common man. Then he made a detailed phonological, morphological, euphonic (sandhi) and syntactic comparison of Sanskrit and *Prākṛit*. Finally, he concluded that Hemachandra's *Prākṛit Grammar* is actually a historical grammar of Sanskrit. Dr. Pandurangan commented that *Prākṛit* was the language of kings whereas Sanskrit was the language of Brahmins, but Prof. Ananthanarayana differed from this opinion and said that *Prākṛit* was spoken by Brahmins also. In course of his discussion, Prof. Ananthanarayana mentioned that clusters in all positions are lost in *Prākṛit*, and he explained this as the missing link of metathesis. According to him, metathesis took place first, then by assimilation, the cluster is dropped. He sighted examples like *premā* > *permā* > *pemmā*. Prof. Subrahmanyam however proposed this cluster simplification as *premā* > *pφemā* > *pφemmā*, i.e. first as a deletion and then an insertion. Mr. Chilukuri Bhuyaneshwar supported this derivation and said that this is apt for Telugu also. Dr. Naduvattom Gopalakrishnan wanted to know whether there was any *Prākṛit*-speaking community in South India. Prof. Ananthanarayana replied that any language is primarily a spoken one; so, whenever there is literature, there should be a speech community, and Jains in South India used to speak *Prākṛit*. Prof. Nagamma Reddy, Dr. G. Umamaheshwar Rao, Dr. K.S. Mustafa and Prof. K. Rangan also took part in the discussion.

Parallel Sessions (10 a.m. - 1 p.m.)

Session II: TRANSLATION / LANGUAGE TEACHING

Chairperson: Dr. G.K. Panikkar

Dr. V.S. Vijayendra Bhas and Dr. Annie Monsy (I.S.D.L.) presented their paper on the *Study of Developmental Language Delay in Pre-School Children: An Introduction*. This was the report of the fieldwork done in a coastal area in Thiruvananthapuram with a sample of 600 children selected at random. An interesting finding of this fieldwork is that children who go to Anganwadi schools are more independent and cooperative than those who go to English-medium schools, and also the Anganwadi children are more developed in speaking and understanding skills whereas the English-medium children are more developed in reading and writing skills.

Ms. Aditi Ghosh (The Asiatic Society, Kolkata) presented *Sonnet 18 and its Bengali Adaptations* where she discussed Sonnet 18 by Shakespeare and its various translations by the Bengali poets Satyendranath Dutta, Sudhindranath Dutta, Bishnu Dey and Anil Bishwas. She emphasised that the pleasure of creativity is the translator's need to enter the poet's world to

bring out that essence which would be transferred into its new façade. In this process, the translator, perhaps unintentionally, becomes the interpreter, arriving at interpretations that the poet was not aware of. According to her, among the four translations, only Anil Bishwas's translation is an attempt of a 'faithful' translation, and among the four translators, only he is not a celebrated poet but, in the process, it creates semantic confusion, generating incompatible arguments resulting in being 'unfaithful' to the spirit of the target language and to some extent to the spirit of the poetry. She concluded by saying that the creative shift from the original is what can be called a translator-poet's prerogative, and at times, it is obligatory. Fidelity to the original may result in betraying the translator's responsibility to the new poem, and sometimes even the original. This paper was followed by a stimulating discussion by Prof. G.K. Panikkar, Mr. M.P. Ravanan and Ms. Nairrita Bhattacharya. While Mr. Ravanan and Ms. Nairrita disagreed with Ms. Ghosh by saying that unlimited creativity by the translator can make the poem a kind of trans-creation rather than an authentic translation, Dr. Panikkar totally agreed with the speaker.

Mr. T. Durga Sreenivasa Rao (C.A.L.T.S., Hyderabad) presented *Problems of Translating Satire*, in which he tried to resolve the problems that arise in translating satirical statements in texts. Many literary techniques like irony, parody and humour are involved in a satirical work. These techniques make the readers understand well but the texts become more complicated. Such literary devices are part and parcel of satire. He concluded by saying that translating ironical phrases according to the sense will result in loss of the ironical effect. Parody is not simple to understand unless information regarding what is being parodied is given by the translator and while translating, the humorous effect may not be retained in the target language.

Session III: COMPUTATIONAL LINGUISTICS / SPEECH ANALYSIS

Chairperson: Dr. G. Umamaheshwar Rao

Mr. Bira Chandra Singh (C.A.L.T.S., Hyderabad) in *Generating Oriya Nominal Word Forms: A Computational Study* analyses Oriya nominal word forms for the purpose of computational generation. He described in detail the methodology and identified various functional elements following certain sequential constraints in the generation of nominal word forms. Prof. Ramakrishna Reddy and Prof. N. Sivarama Murthy participated in the discussion on the treatment of classifiers.

Mr. Chenna Kesava Murthy (C.A.L.T.S., Hyderabad) presented *Verb Sense Disambiguation: A Tool for N.L.P.*, where he discussed a tool to be used in machine translations involving Telugu. He demonstrated the relevance and significance of the importance of argument structure in the area of word sense disambiguation and the necessity for the incorporation

of this knowledge in the development of various applications and tools in N.L.P. Prof. Sivarama Murthy sought information with regard to the use of case markers for the imminent ambiguity giving examples. Prof. Ramakrishna Reddy, Dr. Mustafa and Dr. Umamaheshwar Rao also participated in the discussion.

Prof. N. Sivarama Murthy in *Polysemous Forms in Computer* dealt with the resolution of verbal meanings in the context of alternative case marking. He came up with the idea of possible relationship and correspondence between the cases where the argument is marked for the semantic features rather than the noun representing the argument. Serious discussion took place on the case marking variability and the distinct semantics displayed by the verb and its implementation. Dr. Mustafa, Dr. Rangan and Prof. Ramakrishna Reddy joined the discussion.

Mr. Shashi Kanta Tarai and Dr. Mahidas Bhattacharyya (I.S.D.L.) presented *Influential Phonetic Transformation: Consideration for Text-to-Speech System in Oriya*, in which the main thrust was to analyse the sound pattern of Oriya in terms of acoustic parameters and its co-relevance with articulatory features for the text-to-speech system. This paper identified the phonetic influences on the surrounding syllables and their consequences for speech synthesis. Prof. Nagamma Reddy sought clarification on the changes in vowel length and Mr. B.C. Singh joined the discussion.

Dr. Umamaheshwar Rao in *Linguistics and Language Technology in India: Current Perspectives and Future Prospects*, discussed at length the current scenario of Linguistics and vis-à-vis language technology and called for a shift in the paradigm in teaching and training in Linguistics. He also called for a long-time planning and collaboration between linguists and computer scientists working in language technology.

Session IV: COMPARATIVE / HISTORICAL LINGUISTICS

Chairperson: Dr. P.S. Subrahmanyam

Dr. Ramanjaneyulu presented *On Construction and Coinage of Technical Terms in Telugu and Kannada*. Technical terminology is a unique type of vocabulary and it is useful for the development of a language in various fields. All the developed languages are enriched with their technical terminology. It differs from one language to another by its construction and coinage. This paper attempted to show the methods of constructions and many ways of coinages of technical terms in Telugu and Kannada. He also mentioned that Telugu and Kannada borrowed technical terms heavily from Sanskrit by nativizing them. They also borrowed from other languages, viz. Perso-Arabic, Hindi and English.

Dr. S.N. Upadhyaya, in his paper *Unresolved Linguistic Questions*, commented that it is not a matter of pride for any Indian that none took the

trouble of finding out whether the cognates in the South Indian languages are also cognates in North Indian languages. In this context, he discussed some unresolved questions on Dravidian raised by Prof. Bh. Krishnamurti, Prof. P.S. Subrahmanyam, Robert Caldwell and Prof. V.I. Subramoniam.

Mr. P. Ramanathan presented *Contributions Relevant to Nostratic Studies contained in Devaneyan's 1977-80 Articles in "Centamil-Celvi" (Madras)*. He said that Caldwell in his *A Comparative Grammar of the Dravidian or South Indian Family of Languages* had advanced the hypothesis that Dravidian was perhaps the language family nearest to the mother tongue of man. According to him, of the many scholars who have worked on this hypothesis, the most competent was G. Devaneyan (1902-81) whose huge output on Dravidian Linguistics contains many major insights that are only slowly being recognized, adopted and validated. Then he discussed Devaneyan's 1977-80 *Centamil-Celvi* articles showing how thousands of words are ultimately traceable to 22 basic Tamil words.

Dr. T. Murugaretnam presented his paper on *A Study of Verbal Stems: Early and Middle Tamil*, which was followed by stimulating discussions.

Dr. Naduvattom Gopalakrishnan on *Edakkal Cave Inscriptions: A Linguistic Approach* mentioned that the rock carving in the Edakkal caves in Kerala belongs to the Neolithic age. Among these carvings, certain inscriptions occur, which represent the period 2nd to 5th century A.D. Out of the eight inscriptions, six bear genuine features of the west-coast dialect of Tamil. He also added that a closer examination of Edakkal Cave writings reveals that Malayalam showed tendencies to evolve as an independent language centuries before 9th century A.D.

Afternoon Session (2 - 5 p.m.)

Session V: SYMPOSIUM ON FOLKLORE (2 - 3 p.m.)

Chairperson: Prof. N. Bhakthavatsala Reddy

This was a common session. The main speaker, Dr. Y. Sudhakar Reddy, talked about the current scenario of folklore studies in India and emphasised that 'folk' is more an attitude than ontology. Taking part in the discussion, Dr. V. Prakasam commented on the non-desirability of the hierarchization of language and culture. Ms. Aditi Ghosh sought the differences among folk language, dialect and sociolect. In this context, Dr. T. Murugaretnam made some observations on the language used in radio and television. Mr. Chilukuri Bhuvaneshwar, Dr. R.P. Saxena, Prof. H.S. Ananthanarayana, Prof. B. Ramakrishna Reddy and Prof. V.I. Subramoniam also took part in the discussion. Finally, Prof. N.B. Reddy thanked all the participants.

Parallel Sessions (3 - 5 p.m.)

Session VI: PHONOLOGY/MORPHOLOGY/SYNTAX/SEMANTICS

Chairperson: Dr. R.P. Saxena

Ms. G. Bhuvaneshwari (C.A.L.T.S., Hyderabad) in *Problem of Transfer in Tel-Tam MT system* categorized the problems under two heads: lexical and structural. She further categorized the first one as content words, nouns and functional words. In structural level, she discussed the problems of case markers. Prof. Nagamma Reddy enquired about the two systems of transliteration used in the paper. Prof. K. Rangan enquired whether Tamil to Telugu translation also shows similar problems. Prof. B. Ramakrishna Reddy asked about the use of the term 'functional words'. He noted that in spite of the languages being related, Tel-Tam translation problems seem plentiful. He further noted that the kind of transliteration used is not accessible to all. Dr. K.S. Mustafa suggested that the use of the term 'function word' instead of 'functional word' would be better suited for the purpose.

Mr. R. Bathri Devanath (Tamil University) in *Influence of English in Tamil Compound Sentences* discussed with ample illustrations the usage of conjuncts and cited reasons for the influence. Prof. Rangan pointed out that such conjunctions are rare in some cases like departmental names, etc.

Mr. Abhishek Kumar (C.I.E.F.L., Lucknow) in his paper *Relational Constructions in Bajjika and English* discussed the similarities in relative constructions between English and Bajjika languages. Bajjika is spoken by 15 million speakers in different districts of Bihar. He gave examples to illustrate the intensive, circumstantial and possessive relational process. Prof. Rangan enquired if attributes and complements are the same. The speaker and Prof. Prakasam argued that 'carrier-attribute' dichotomy works on more different levels than 'subject-complement' dichotomy.

Mr. Sunandan Kumar Sen (The Asiatic Society, Kolkata) spoke on *Bengali Compound Verb: Its Traits*. He gave a detailed classification of semantic differences induced by compound verbs as compared to simple verbs.

Mr. Susanta Kumar Bardhan in *Chakma Syllable Structure* gave details of the syllable structures in the Chakma language and phonetic constraints in different syllable positions. He said that in Chakma language, 'w', 'th', 'c', 'ch' and 'l' do not occur in onset position and in coda only liquids and nasals are allowed. He further commented that onset clusters are simplified by inserting vowels.

Dr. R.K. Haldorai on *The Verb tā, koTu, ī in Badaga Language*, spoken in the Nilgiri Hills, demonstrated some important differences with Modern Kannada. He mentioned that Prof. Emeneau attributed these features

as the influence of Badaga language. He also demonstrated that Badaga retains certain ancient features that did not survive in Kannada.

Session VII: GRAMMAR

Chairperson: Prof. H.S. Ananthanarayana

Dr. N. Panchatcharam presented *Time of Tamil Sangam Literature unravelled by Tolkappiyam Rule 62 of Ezhuttu - Historical Context*. He said that research scholars in Tamil have so far not been able to fix the date of Sangam literature. However, they consider the period to be from 2nd century B.C. to 2nd century A.D., which is now generally accepted without recourse to any further research in this regard. The speaker, however, by applying rule 62 and 401 of Tolkappiyam, inclined to put a new dating to the 3rd-4th century B.C. He further remarked that more research could be conducted to find many poets and rulers of Sangam anthologies belonging to the period in the 4th century or earlier by drafting out genealogical and contemporaneity charts.

Mr. Samir Karmakar (I.S.D.L.) on *Emergence of Katantra: A Historical Appraisal* showed that in the long tradition of pedagogical grammar in the post-Paninian period, Katantra is considered as a trendsetter, since it introduced a new line of approach, by giving emphasis to the synchronic features of Sanskrit language. Moreover, the emergence of Katantra was contemporary to the upsurge of Buddhism and Jainism as a trend of heterodoxy. The speaker showed the emergence of Katantra as a result of historical contradictions which were embedded in its contemporary time.

Dr. P. Visalakshy (Kerala University, Thiruvananthapuram) spoke on *The Importance of Kasika amongst Sanskrit Grammatical Treatises*. She said that Kasika is an outstanding grammatical treatise which enables the proper understanding of the monumental treatise of Panini. According to her, when Jayaditya and Vamana wrote *Kasikavritti*, it supplied the missing links of the whole system. From a careful observation of the grammar of Kasika together with Panini's *Astadhyayi*, Patanjali's *Mahabhashya* and Katyayana's *Vartikas*, one could clearly understand the significance of grammar between the intermediate periods from Panini to Kasika. The author also discussed the date of Kasika, the joint authorship, its special characteristics and the influence of other grammatical systems on it.

Dr. K. Vishwanatham (C.I.I.L., Mysore) presented *Verb Morphology in Telugu* which was followed by stimulating discussions.

Dr. M. Sadasivam presented a paper on *Antiquity of Jaffna Tamil*.

In the evening, a cultural programme of *Chindu Yakshaganam* by Mr. G. Sammaiah and party was organized.

12.6.04 (Saturday): Parallel Sessions (10 a.m. - 12.30 p.m.)

Session VIII: SOCIOLINGUISTICS

Chairperson: Dr. T. Murugaretnam

Ms. R. Seetha (Osmania University, Hyderabad) spoke on *Greeting, Address Forms and Polite Forms in Tamil - A Sociolinguistic Study*, where she investigated the various forms of greeting, address and politeness, and the different forms of reference used in colloquial Tamil. Considering the various socio-cultural aspects, she made an attempt to examine the address forms and the variables in personal pronouns used as forms of reference. She also made some observations on the regional and contextual parameters. It is seen that while expressions of politeness in informal speech are restricted in their usage in Tamil as compared to those in English, the forms of greeting are entirely dependent on the occasion.

Mr. Era Paaventhan's *Irulas and their Theological Aspects - A Case-study* is based on the data collected from fieldwork done in Palamalai during the Ranganathar festival. He discussed the theological aspects of Vettekkadu Irula Pallars living in Coimbatore District of Tamil Nadu. Senkothaiamman is the deity of worship for all the clans living in Palamalai, though at the same time they also have other folk deities. The worship of the original folk deity Senkothaiamman is now being associated with the greater Brahmanic God Lord Ranganatha and the marriage of Senkothaiamman with Lord Ranganatha is prevalent. After the marriage is performed, Senkothaiamman goes back to the place of her origin as an indication of protest. This episode explains the non-acceptance of the tribal female deity. It also indicates the status of a deserted woman given to this folk deity and she being treated as one of the two wives of Lord Ranganatha. He also pointed out that this Sanskritization process is half-hearted. Though the folk deity belongs to the Irulas, only a very low status is granted to these tribals by the Kannada-speaking backward community.

Mr. Chilukuri Bhuvaneshwar (C.I.E.F.L., Hyderabad) spoke on *A Bibliographical Review of Telugu Proverb Literature I: Collections 1 (Whole Books) - 1868 to 2000*. Ever since the publication of the first collection of Telugu proverbs by Carr in 1868, many other collections slowly emerged till the new millennium. He presented an exhaustive list of 77 collections of Telugu proverbs from books and individual collections, with brief notes on each of them. Besides, he also made an analysis of the methods of compilation of proverbs.

Dr. R.P. Saxena presented *The Ramayana and Mahabharata Tradition in the Folk Literature of Central India*. The folk literatures, especially ballads of Central India, have their own versions of the epics Ramayana and Mahabharata. Some characters of these two epics are so differently depicted in the folk literatures that there seems to be a contrast between

these two. He analysed some incidents from these two epics in detail where some scriptural characters lose their original glamour and divinity and behave like the common man, having human qualities and weakness. This paper was based on the data drawn from the folk songs, especially ballads, sung by the professional bards of the community. Finally, he concluded by saying that for understanding the real, religious and cultural diversity of India, the folk literature is to be considered at par with the written literature. Both these traditions put together can depict the real composite culture of India.

Session IX: CLINICAL LINGUISTICS/DIALECT STUDY/GRAMMAR

Chairperson: Prof. N. Sivarama Murthy

Prof. V.I. Subramoniam presented a paper on *Nativism in a Dialect*, where he mentioned that in order to analyse any unit in a dialect, the neighbouring units should also be taken into consideration. The standard features of consonants and vowels may change in a dialect, as native pronunciation influences. He also mentioned that pronunciation differs in different kinds of speech. He sighted examples of difference in pronunciation in natural and passionate speech. This paper was followed by stimulating discussions. Prof. B. Ramakrishna Reddy enquired whether there is any generalization of this variation, and commented that in the dialects of Tamil, sound change occurs horizontally. Prof. Subramoniam commented that in actuality it is very difficult. Prof. Sivarama Murthy and Prof. B. Gopinathan Nair also took part in the discussion.

Mr. M.P. Ravanam in *Competing Sentence Test in Kannada for Children - Revised* presented a test result, viz. Competing Sentence Test in Kannada conducted on 150 children belonging to the age group of 8-12 years suffering from auditory processing disorders. There are various behavioural tests for assessing the auditory processing disorders, among which this Test is very helpful to identify the lesion in the temporal lobe and to some extent, lesions in the brain-stem level. In this test, two different sentences (target and competing) are presented to the ears simultaneously and the subject is asked to repeat the sentences. The number of correct repetitions is scored and converted into percentage score and analysed.

Mr. Manoj Kumar (C.I.E.F.L., Lucknow) in *Discourse of Abuses: A Socio-semiotic Analysis* analysed the abusive discourse as a social discourse by following the socio-semiotic structure of a situation type, i.e. field, mode, tenor as a conceptual framework for representing the social context as the semiotic environment in which people exchange meaning. He illustrated this from Tulsidas's *Ramacaritmanasa*, where at the time of marriage, the bridegroom's party is welcomed with abuses at the bride's door. Prof. H.S. Ananthanarayana and Prof. B. Ramakrishna Reddy took part in the discussion.

Dr. B. Mallikarjuna (C.I.I.L., Mysore) presented *An Exploration into Linguistic Majority and Minority Relations in India*. He said that the majority-minority relation is an interesting and important factor in development and nation-building discourse. He further commented that at present, India is witnessing a transition. The Indian political plane is so volatile that it may overcrowd, eliminate, submerge or transform the kind of identity assertions that we saw for the past half a century or so. He attempted to capture this transitional process through exploring the linguistic majority and minority relations from diverse viewpoints, including the economic, social and political dimensions.

Ms. Nairrita Bhattacharya in *The Treatment of the Secondary Suffixes in Mugdhabodham Vyakaranam* explained how the numerous secondary suffixes used by Panini are modified and reduced to only a few to suit the pedagogical purpose of Mugdhabodham Vyakaranam. She explained this by illustrating the treatment of the patronymic suffixes in both the grammatical treatises. Prof. Ananthanarayana and Prof. Sivarama Murthy took part in the discussion.

Prof. Sivarama Murthy finally thanked all the participants for their active participation.

Session X: SYNTAX / LANGUAGE TEACHING

Chairperson: Dr. M. Rama

Dr. K.S. Mustafa spoke on *Causatives in Dakkhini*. Dakkhini is a form of Indo-Aryan dialect - the predecessor of Hindi-Urdu. He discussed the causative of Dakkhini under two heads, viz. morphological and periphrastic. These again are further categorized and analysed with illustrations. He concluded by saying that the morphological category of causatives corresponds with those of the other Indian languages whereas the periphrastic constructions show idiosyncratic features. A lively discussion followed the presentation. Dr. Naduvattom Gopalakrishnan, Dr. Rama and Prof. Pandurangan took part in the discussion.

Dr. M. Rama spoke on *School Education: New Approach*, where he discussed the new education policy of the nation. He elaborated the evolution of education policies in various five-year plans. He discussed various issues like textbook-preparation, preparation of syllabi, etc. He also discussed in detail the new role of teachers. He said that a teacher should play the role of a director, a guide, a co-learner and a problem-solver simultaneously. Dr. Haldorai, Prof. Panikkar and others participated in the discussions on various modes of ideal teaching process and other issues like system of gradation, etc.

Dr. K. Ramesh Kumar presented *The Implementation of Tribal Languages in School Education: The Andhra Pradesh Experiment*. He focused

on the problems the tribal children face in the primary stage due to the medium of instruction. The Government of Andhra Pradesh made attempts to teach through the tribal languages, viz. Gondi, Koya, Kolami, etc. for the respective-language children at the primary stage. He also discussed the methodology adopted in teaching as well as the preparation of books in tribal languages for the first standard.

Dr. K. Ratna Shiela Mani in *A Functional Interpretation of Sarojini Naidu's Poem - 'The Sorrow of Love'* analysed the poem from the point of view of the functions of language. She identified the experiential sub-component in terms of the participants, circumstances and processes.

SLIDE SHOW ON FOLKLORE OF SOUTH INDIA (12.30 - 1 p.m.)

The show was organized by Prof. N. Bhakthavatsala Reddy, his colleagues and students at the School of Folk and Tribal Lore, P.S. Telugu University. As part of the project undertaken by the School, the Department of Folklore collected data from the four regions of the State of Andhra Pradesh and classified them under different heads. A large volume of data was collected on the religion and social life of the different communities of Andhra Pradesh that include the system of worship, festivals, marriage, folk-art forms, food and games. The show was very informative and the participants took part in the discussion with much enthusiasm and wanted to know about the various aspects of life and culture of the folks.

Afternoon Session (2 - 4.30 p.m.)

SPECIAL LECTURE ON PATTERN FORMATION IN THE BRAIN

(2 - 3 p.m.)

Chairperson: Mr. T. Madhava Menon

In the post-lunch session, Prof. V.I. Subramoniam delivered a special lecture on *Pattern Formation in the Brain*. He talked about current research going on in India and abroad on brain and language. He also talked about the vague area of the brain and pointed out that as one of the reasons why research on machine translation is till now not very successful. This was followed by a stimulating discussion. Mr. Madhava Menon commented on the nature and function of the human brain where he said that the ability to cognise in itself is perhaps the distinguishing feature of the human brain. He finally thanked the speaker and all the participants for their active participation.

VALEDICTORY SESSION (3 - 4.30 p.m.)

The valedictory session of the 32nd AICDL started at 3 p.m. Justice Sri. P.R. Gokulakrishnan presided over the function. Dr. Ramesh (P.S. Telugu University) welcomed the audience and introduced the guests. Members of the D.L.A. honoured the guests with shawls.

Sri. Gokulakrishnan in his brief valedictory speech mentioned that perhaps the D.L.A. is the largest association of linguists in India and its annual conference has earned respect of academics in India and plays a crucial role in the bondage of language and culture throughout India and pointed out that the conference was a big success.

Dr. S.N. Upadhyaya, a regular participant of the conference, and two young linguists, Mr. Abhishek Kumar and Ms. R. Seetha, who participated for the first time, shared their views about the conference. All of them opined that this is a platform for interaction between the old and the new generations of linguists. Both the budding linguists and experienced ones are heard here with equal interest and tolerance.

Mr. Sunandan Kumar Sen (Asiatic Society, Kolkata) got the *Best-Paper Award for Young Researchers* awarded by the D.L.A. and judged by a panel of eminent linguists.

Dr. Bhakthavatsala Reddy, on behalf of the School of Folk and Tribal Lore, P.S. Telugu University, honoured Prof. V.I. Subramoniam and the group of folk artistes, who exhibited their artefacts throughout the days of the conference, with shawls. He also presented the academic report of the conference and mentioned that the conference was a great success. He specially thanked H.E. Sri. Surjit Singh Barnala, the Governor of Andhra Pradesh, and the other dignitaries for their active participation in the Inaugural Function.

Finally, Dr. V.S. Vijayendra Bhas (I.S.D.L.) proposed the vote of thanks and the function came to a close at 4.30 p.m.

In the evening, the School of Folk and Tribal Lore, P.S. Telugu University organised a sightseeing tour for the delegates, which included Warangal Fort, Thousand-Pillar Temple and a temple of Goddess Kali. It was a nice experience for all the delegates.

Acknowledgement: I gratefully acknowledge the help I received from Ms. Aditi Ghosh for covering the proceedings of the parallel sessions on all the three days. The students of the School of Folk and Tribal Lore were extremely helpful and provided all the equipments for the audio recording of the sessions for later use. I owe them a lot. My colleagues in I.S.D.L. helped me in various ways during the days of the conference. Thanks to them also.

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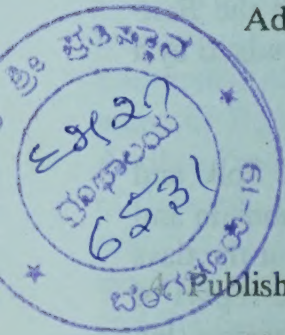
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